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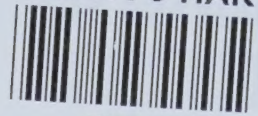
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Arnold Arboretum
January 1943



SYLVA TELLURIANA.

MANTIS. SYNOPT.

NEW GENERA AND SPECIES

OF

TREES AND SHRUBS OF NORTH AMERICA,

AND OTHER REGIONS OF THE EARTH,

Omitted or mistaken by the Botanical Authors and Compilers, or not properly classified, now reduced by their natural affinities to the proper natural orders and tribes.

By C. S. RAFINESQUE, A. M.—Ph. D.

Professor of Botany, the Natural and Historical Sciences, member of many learned Societies in Paris, Bordeaux, Brussels, Bonn, Vienna, Zurich, Naples, &c.—Philadelphia, New York, Lexington, Cincinnati, &c., author of many works.

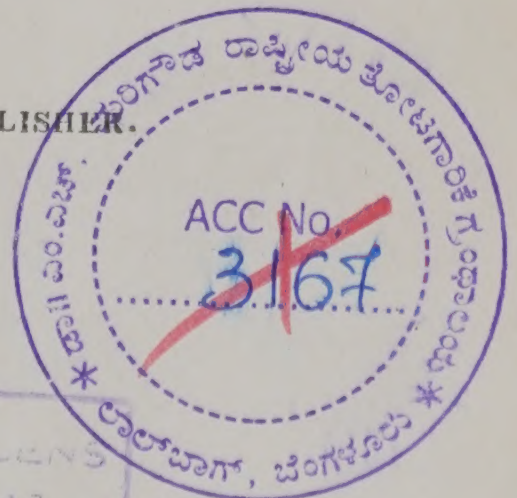
BEING A SUPPLEMENT TO THE FLORA TELLURIANA.

(Trees and Shrubs are the Ornaments of the Earth.)

PHILADELPHIA :

PRINTED FOR THE AUTHOR AND PUBLISHER.

1838.



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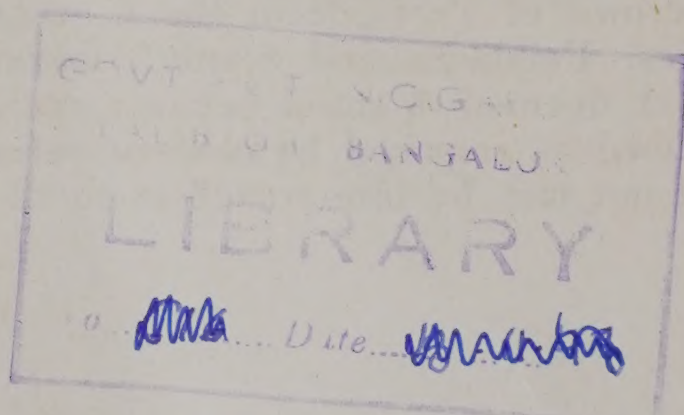
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NOTICE.

This Synoptical Mantissa being a Supplement to all the works on Dendrology and Xylogy, as well as to my own: those New G. and Sp. of Trees and Shrubs already described by myself in my various works and Floras, above all my two late FLORA TELLURIANA and FLORA OF NORTH AMERICA, as well as my MEDICAL FLORA of the United States, will seldom be noticed or repeated here.

The whole of the New Genera of such Trees; will be duly reduced to their natural orders, and a Table formed of them: so as to present at once a view of the generic additions to these natural groups, and a proper classification of such additional Discoveries or Revisions.

But few Genera of which only the flowers are known and not the fruit, *or viceversa*, will be introduced; but some may, as did Gaertner and others when they only obtained imperfect materials or figures.



INTRODUCTION.

I promised in my *FLORA TELLURIANA* 1836 concluded in 4 parts and 1225 articles, to add soon after some others separately; the Trees and Shrubs being the most important and striking vegetable bodies, deserve to be foremost. They are the most valuable also by their fruits, timber, bark, medical productions, &c: yet have often been neglected by the Botanists not able to distinguish objects accurately.

It is a fact that Trees have been the last to be well ascertained and described every where: it is only lately that the Elms, Willows, Oaks and 20 other Genera of Trees have been properly distinguished even in Europe, and in North America our Oaks, Willows, Poplars, Ash trees, Grape Vines and 40 other Genera of Trees or Shrubs have been described only within a few years. Our common fruit trees were not even distinguished till Decandole attempted it, and the Plumb trees, Cherry trees, Wortle berries of N. America are yet in utter confusion with many other fruits.

And still we meet with Botanists who pretend that every thing is known, and that all our vegetable forms are ascertained and described . . . !

In tropical climates where these woody forms abound, there remains still more to be achieved or even discovered. The old Botanists Rheedee, Rumphius, Piso, Plumier, and many others have figured a crowd of Trees, from the East and West Indies, Polynesia and South America, that are yet deemed doubtful because not so well described as required by modern refinement, and not met by late travellers in their

rapid excursions; but they are often sufficiently designed to be known and classed. When they have been neglected by our scrupulous Compilers, I shall make it a point to restore them, and admit them by proper names, pointing out their affinities and natural analogies.

Within this Century a crowd of travellers or explorers have partly made known the treasures of a luxuriant vegetation in South America, Africa, India, Madagascar, Japan, Polynesia, Australia, &c. but only a part of their discoveries have been published, and even that part is sometimes neglected by the Botanists that do not travel.

Even now there are some Regions of the Earth, of which we know little or nothing, as to their Trees, Shrubs and Plants. Such are for instance Western China, Thibet, Central Tartary, Eastern Africa, North Australia, Papua, Borneo, and in America, Western Brazil, Bolivia, Nicaragua and Guatimala, &c.

Therefore we have yet an ample field before us, in attempting to complete the knowledge of the woody Bodies of our Globe, both as to ascertaining them all and naming, describing, figuring and classifying them properly.

In this little work nothing else will be attempted but to collect and restore the chief Genera omitted or mistaken, adding some new ones, rectifying their names, sometimes their species, classifying those deemed doubtful, and tracing their botanical affinities. I have already done so for many in my former works, and above all in my *FLORA TELLURIANA*, also *NEW SYLVA* and *POMONA* of North America. Here I mean to give additions thereto, and in fact to all the Botanical works, where the labors of Adanson and

Necker, Rumphius and Rheede. with a host of similar worthy authors, are neglected and omitted or not properly fixed.

In doing this, I shall again adopt the desultory order of arrangement, with alphabetical Index, and for the reasons often stated, that I cannot stoop to follow the erroneous sexual system, nor the imperfect serial method of any modern Author. A perfect serial order is yet a *desideratum* in Botany, none has hit upon it, nor begun it by the ROSE as I did. I have given my own view of this Serial Order in first part of Flora Telluriana, and altho' apparently the best or least imperfect, if I was to follow it here, I might certainly be as much blamed as I may be for my Desultory Order; which is however that of Hooker and Lindley in their periodical publications, that of Lamark, Poiret, with many other writers, and the Centuries of Bivona and ten others.

Altho' we have several works on Fruit trees, Forest Trees, Ornamental Shrubs, of some Regions, no work has ever been attempted upon all those of our Globe; and altho' usually introduced in general works, yet they appear there drowned and blended with the whole of vegetation: while they hold such a rank by size and importance, as to deserve to stand alone. We lack thus a complete view of Arborescent and Frutescent forms all over the Earth, and their natural groups.

A very common distinction, but not always accurate is their division into Trees, Palms, Shrubs, Under Shrubs, Thorns, Bushes and Vines. Except Palms all the others are unnatural blending forms of woody Vegetables. The Cactes or Cactoid forms, the Smilax or Shrub-

by climbing Monocotyles, and the Stelmians or Crowned Monocotyles, akin to Palms, are additional and more natural.

For these forms, my remarks on habit, classification and other details, I refer to the first part of my *FLORA TELLURIANA*, and to the Introduction to my *New Sylva of North America* for the geographical range of Trees: which I assert to form the principal feature in the botanical regions of the Earth.

To explain this fact would require many illustrations and details, more suitable for a *General Sylva Telluriana*, (when it shall be undertaken) than a simple Mantissa or Supplement like this. Then it will be easy to show how some peculiar Genera of Trees prevail or are peculiar to each Region, just like the Oaks in North America and Mexico, the Willows and Roses in Northern Regions, the Palms in tropical Regions, &c. It has lately been proposed to distinguish and denominate these Regions by the prevailing Genera of Plants; but I should think the prevailing Trees ought to obtain the preference.

There are woody forms either Generic or Specific in almost all the Natural Orders and Families, and even among the Ferns, Fungi, &c. However the perennial stem of all the Cellular Plants are quite peculiar and not proper wood: those of Monocotyles assume also a peculiar texture and extraordinary forms, as in Ferns, Lycopodes, Equisetides; while the Mosses and Hepatides, are totally herbaceous even when perennial. Lilies, Orchides, Aroides, Grasses, &c., when assuming a frutescent form, have always some peculiar structure, quite different from the real Trees and Shrubs of the Dicotyle Series.

In these by far more numerous on Earth, we find whole families altogether frutescent as the Palms are among Monocotyles. Such are the true Rosaceous, Prunides, Pomides, Magnolides, Annonides, Coniferes, Amentaceous, Cupuliferes, Laurines, Meliaceous, Ericoides, Vaccinides, Jasminides, Sarmentose, and many others: while there are but few families that are totally destitute of the arborescent or frutescent forms.

Among the obsolete and incongruous Genera that Jussieu and others could not reduce to his natural families, because unwilling to see that they were types of new ones, nearly all were frutescent and have since been properly distributed or framed into peculiar families, even when 1 or 2 Genera only may have been the original types. I shall do the same with some others, that have been neglected, because the Botanists were puzzled where to placè them.

Lastly the object of this Mantissa is both to correct generic errors and omissions. and to add at least all the Trees and Shrubs *already known and described or figured*, to our actual mass of botanical improved knowledge, upon the plan proposed and pursued in my FLORA TELLURIANA for many other branches of Botany.

Philadelphia, October, 1838.

SYLVA TELLURIANA.

CENTURIA I.

Article 1. OLEA Auct. Many Sp. have been improperly united to this Genus, and many real Sp. blended as varieties, the common Olive is the type, all others must be again examined. The nat. family *OLEINA* of R. Brown of which it is the type, hardly differs from *JASMINEA* except by a monosperm drupe. The real *Olea* has ——— *Cor. infundib. stigma bifido, stylo elongato* ——— and the real *Olea europea* has ——— ramis levis, fol. ovato lanc. mucronulatis, margine revolutis, subtus albidis, fructo obl. nigro.——Native of regions around the Mediterranean: it has produced 25 varieties now cultivated, distinguished by slight differences of size, season, value of fruits; but some presumed varieties with different shaped leaves or fruits, are real species, whether primordial or deviated, and many botanists have hinted as much. All seen alive.

2. *Olea europea* Var. *Semperflorens* Raf. *O. caietana* Petagni, Vitm. deemed a sp. by them, but no essential difference given, it only differs by having flowers and fruits at all seasons; the olives are small ovatoblong blackish, oil good, leaves ovate lanceolate. South Italy.

3. *Olea verrucosa* Raf. ramis verrucosis, fol. lanceol. planis acutis subtus albidis.—South of Europe, the only variety in Persoon, but a real species probably.

4. *Olea bifera* Raf. ramis levissimis, fol. major obl. lanceol. subtus argenteis, fruct. pri-

mordialis elongatis acuminatis purpureis, serotinis parvis globosis—South Italy, called *oliva sanctana* near Rome, the foliage is globular not spreading, very remarkable by bearing twice a year and different shaped fruits, the last not larger than peas are like a bladder of excellent oil.

5. *Olea cayana* Raf. ramis levis, fol. ellipticis obtusis subtus pallidis—South of Europe, called, Cayan Olive.

6. *Olea angustifolia* Raf. ramis levis, fol. angustis lanceolatis—South of Europe.

7. *Olea brevifolia* Raf. ramis levis, fol. ovatis brevis—South of Europe. We lack accounts of the olives of Asia.

8. *ENAIMON* Raf. (nom. grec.) diff. *Olea*, cal. minutus sub4dent. cor. rotata, 4partita, lobis recurvis. stam. 2 opp. in sin. ovar. globoso. stylo teres, stigma globoso umbilicato—thus totally unlike the real Olive, nearer to *Phyllirea* only one type, unless *Olea capensis* should also belong thereto.

9. *Enaimon undulata* Raf. *Olea* do Jaq. Lod. 379, bot. mag. 3089. *O. laurifolia* Lam.—ramis verrucosis, fol. petiolatis obl. utrinque acum. subtus pallidis, paniculis trichotomis—South Africa where called Fzerhout or Iron wood.

10. *PAUSIA* Raf. diff. *Olea*, dioica, cor. tubulosa, 4fida, lobis reflexis, stigma subsessile emarginato, nux striata basi perforata. *Racemis panic. bracteis connatis*—all the real Olives are of the old continent, this is American and a genuine Genus, the type being *Pausia americana* (or *odorata*) *Olea* do L. auct. but as it is stated the leaves vary being lanceolate, elliptic or obovate, it may include also several species.

seen dry. *Pausia* was an ancient latin name of the Olive.

11. *POGENDA* Raf. (beard inside) diff. *Olea*, cor. tubulosa teres 4fida, intus barbata, stam. 4!—Probably not even of same family, since 2 stamens are essential thereto, and rather akin to *Mayepea*, with 4 stamens also.

12. *Pogenda cernua* R. *Olea* do Vahl, auct. —fol. obl. lanc. obtusis, racemis axil. fl. cernuis—Madagascar.

13. *NESTEGIS* Raf. (not covered) diff. *Olea*, corolla nulla, stam. 2 hypog.—How can an apetalous shrub, with stamens not on a corolla be united to *Olea*!—Type *N. elliptica* Raf. *Olea* do Vahl &c fol. ellipt. fl. racemosis—New Zealand. Probably of *FRAXINIDES* tribe, and akin to *Forrestiera*, *Nudilus* &c, see my New flora.

14. *NOTELEA* Vent. To this G. Smith proposed to unite *Rhizosperma* of Gaertner, and even *Phyllirea*! *Chionanthus*! what an incongruity! while it even includes at least 2 distinct G. the real *Notelea* has—cal. tubul. 5fid. eq. persist. petalis 4, basi pari coalitis cum stam. 2 filif. stylo filif, stig. integro, drupo monosp.—Many types *N. punctata*, *ovata*, *ligustrina*, *microcarpa* &c. Near to *Chionanthus* but different calix, style, petals &c.

15. *POSTUERA* Raf. (nymph) diff. *Notelea*, calix 5fido inequalis, stylo bifido, stigma 2—Type *P. longifolia* R. *Notelea* do Ait. fol. lanceol. reticulatis.

All the above Genera are frutescent, for many others akin see my New Flora 706 to 734, where the G. *Chionanthus*, *Forestiera*, *Carpoxis*, *Nudilus*, *Fraxinus*, *Leptalix*, *Ornanthes*, *Samarpses* &c are properly designated. Also my N. G. *Faulia* fl. tell. 314, once

blended with *Ligustrum*; and *Linociera*, *Mayepea* wrongly united to *Chionanthus*; *Linociera* belongs to *Jasminea* having a berry 2loc. 4sperm, the petals are as in *Notelea*.

16. *PATTARA* Ad. Basal, Rh. Lam. Bosc. cal. 5part. petalis 5, stam. 5, ovar. globoso, stylo brevis, stigma, simplex drupis globosis monosp. *Frut. sempervirens, fol. alt. racemis axil. flor. odoratis*—put by Adanson among the CISTIDES but akin to *Ximenia* and *Cansiera* all probably belonging to my family of CELTIDES, though differing from *Celtis* by petals and single style, 2 types omitted by nearly all Authors.

17. *Pattara basal* Raf. petalis subrotundis. Rheed 6. t. 11.

18. *Pattara acuta* Raf. petalis ovatis acutis Rh. 6. t. 12. Both in Malabar, the fruits are vermifuge.

19. *BEDUSIA* Rh. Raf. cal. 6part. petalis 6. stam. plurimis, ovar. ovato, stylo simplex. drupis ovatis uniloc. 3pyrenis, sem. globosis. *Frutex, fol. alt. simpl. fl. axillaris*—near to *Banara* and *Grewia* in family TILIACEA, monotype.

20. *Bedusia aromatica* Raf. fol. ovatis integris coriaceis fl. fascic.—Malabar, figured by Rheed. 5. t. 50. leaves with aromatic taste and smell, flowers very small scentless.

21. *MABOLA* Raf. cal. rotato 4part. caliculato, cor. urceolata 4fida, stam. 24 hypogyna non epicorolis, filam. 12 distinctis filiformis apice furcatis biantheriferis, antheris anticis et posticis bilocul. cetera ut *Diospyros*—singular G. by the extraordinary number and position of anthers not lateral to each other, same family as *Diospyros* however.

22. *Mabola edulis* Raf. *Diospyros mabola*

Roxb. bot. reg. 1139. fol. obl. acutis, fl. term. fasciculatis—a fine fruit tree of the Philipines, fruit like a Quince, rosy flesh of fine flavor, flowers yellow odorous: wood like Ebony.

23. *Calsiama* Raf. *Calesiam* Rh. Ad.—cal. 4ph. decid. petalis 4 ovatis acutis, stam. 8, ovar. ovat. stylo simplex. drupis obl. compr. monosp. *Fol. oppos. pinnatis fl. term. racemosis*—very near to *Amyris*, same family my *AMYRIDES*, chief difference in calix. Monotype.

24. *Calsiama malabarica* Raf. foliolis ovatis integris, petalis acutis, drupis viridis—Rheed. 4 t. 32. A tree, the bark is medical, used against spasms, gout, ulcers and dysentery.

25. *Bemsetia* Raf. Rubiaceae—cal. adh. 4dent. basi globoso, cor. tubo elongato, limbo 4part. rotato et reflexo, faux barbata, antheris 4 sessilis in sinub. exertis subulatis, stylo clavato bifido. Bacca 2loc. 2sperma—habit of *Ixora* to which it was wrongly united. Monotype.

26. *Bemsetia paniculata* Raf. (*Bemscheti* Rh. 2. t. 14. *Ixora barbata* Roxb. bot. mag. 2505) fol. petiol. ovatoblongis. panicula term. 3chotoma laxa—Shrub of South India, flowers white.

27. *Claderia* Raf. (wooly twigs) cal. parvus 5fidus, petalis 5lanceol. stam. 10 liberis pet. eq. stylo filif. stig. capit. Baccis globosis monosp. *Arbor fol. pinnatis, fl. term. panic.*—Another G. of the family *AMYRIDES*, not at all a *Melia* as supposed by some.

28. *Claderia parviflora* Raf. ramis lanatis, foliolis ovatis, paniculis multifloris—fine tree of South India, called *Carabou* by Lam. Bosc, a *Melia* by others. Leaves and flowers with a

strong smell, leaves bitter, flowers small blossoming twice a year, seeds affording an oil.

29. *APAMA* Rh. Raf. (n. ind.) calix trifidus, petalis nullis, Stam. plura triadelphis, pist. minut. fruct, theca siliquosa intus pulposa polysp. *Frutex semperv. fol. alt. fl. axil*—N. fam. of *HESPERIDES* near to *Triphasia* of Loureiro, also akin to *Androsemum* of Hypericines, but is the fruit unilocular?

30. *Apama laurifolia* Raf. (*Alpan* Bosc) fol. oblongis perennis, fl. axil. 2-4 fasciculatis—East Indies, flowering twice a year, medical, juice used with oil for ulcers, and with *Calamus* against bites of Snakes.

31. *BENTECA* Rh. Ad. cal. 5dent. corolla 5fida, Stam. 5, pist. libero, stylo recto, stig. globoso. Baccis siccis obl. 2locul. polysp. *Arbor semperv. fol. alt. fl. panicul*—put by Adanson next to *Styrax*, but more akin to *Solanum*, unless the stamens be opposed to corolla when it may rank in the *SAPOTIDES*. The seeds are ovoid hard in two rows in each cell, partition membranose.

32. *Benteca odorata* Raf. fol perennis ovatis subtus villosis, racemis termin. paniculatis—tall tree of Malabar figured by Rheed 4. t. 30, the flowers are small greenish white, but numerous and fragrant; the leaves are sudorific.

33. *BESSIA* Raf. (n. ind.) Leguminose. cal. 5dent. petalis 5ineq. 4 subrot. uno obl, obt. Stam. 10 liberis ineq. 3 multo longior, ovarium conicum, stylo filif. legum. compressis 4-6spermis. *Arbor fol. alt. pari pinnatis, fl. term. racemosis*—another G. of the Lomentaceous Leguminose, near *Senna*, *Sophora* &c.

34. *Bessia sanguinolenta* Raf. (*Bessi*

Rumph. 3 t. 10. Lam. Bosc.) foliolis 4-6 ovatis integris, racemis terminalibus—large useful tree of Molucas, excellent timber, flowers yellow, pods one foot long; sap red like blood, staining permanently. This and other Indian names above, are certainly as good as *Piper*, *Cassia*, *Coffea*, and 50 similar Indian or Arabic names of Linneus. If *Bessia* is not good enough or too near *Bassia*! *Dendrema* or bloody tree is suggested instead.

35. *Gossypium* L. auct. Cotton is a fine natural G. most of the sp. being frutescent; but they are as yet little understood, and the African and Asiatic kinds not well described. Willdenow, Lamark, Smith and Decandole have but few sp. not well distinguished: Decandole's account of this G. as well as *Vitis* and some others is very imperfect, having neglected the monograph of American Cottons by Rohr and Bose, which I have chiefly used in my own monograph. Rohr had noticed (but not well named) nearly 40 years ago 34 species and varieties, taking his characters from the seeds rather than the variable leaves and glands. I shall give here a synoptical view of his labor and mine, having reduced them to 26 botanical sp. under 3 subgenera, adding the average produce of Cotton by each tree.

36. Subg. *KARPAS* Raf. semina scabra, avena, nuda non villosa nec tomentosa, sepe nigra.

37.—Subg. *LEIOFAIUM* R. (smooth brown) semina levis venosa fuscata, vel viridis.

38. Subg. *LANIGERUM* R. semina villosa vel tomentosa.

39. *Gossypium* (Karpas) *virgatum* Raf. sp. 1 Rohr, Bosc. ramis virgatis, sem. magna ovata

scabra nuda—Shrub 9 feet high, worthless producing hardly any cotton, Antilles.

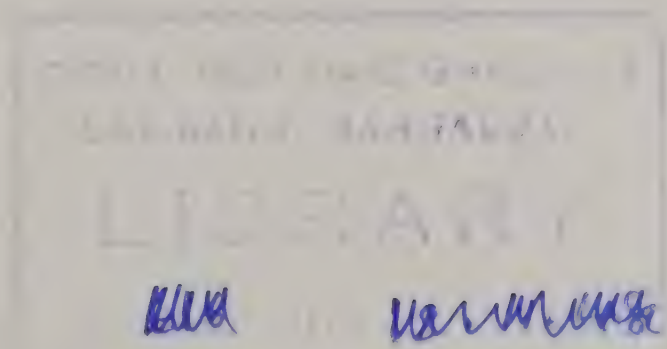
40. *Gossypium* (Karpas) *niveum* Raf. sp. 2 R. B. sem. apex subfibrosis ad utrinquelatere—Cotton very white, of Antilles, not productive.

41. *Gossypium* (Karpas) *virens* Raf. sp. 3 R. B. sem. villis viridis coronata et maculata, apex brevis—small Shrub, but fine cotton, produce $2\frac{1}{2}$ ounces. Martinico &c.

42. *Gossypium* (Karpas) *decurrens* Raf. sp. 4, 5, 9 R. B. sem. ovata scabra, corona tomentosa ad angulo decurrens—sorrel cotton, 4 varieties 1. *viridis* producing only 4 ounces of cotton, 2 *rubrum*, with stem, petiols, nerves and calix red, valuable, producing $7\frac{1}{2}$ ounces of fine clean cotton on each Shrub 5 feet high. 3 *flocosum*, seeds with flobose spots, shrub 6 feet high, producing 4 ounces of cotton. 4 *patulum*, like last, but loftier, much spreading, producing one pound of cotton.

43. *Gossypium* (Karpas) *macrospermum* Raf. sp. 6 R. B. sem. oblonga scabra longe acuminata, corona tomentosa vix decurrens—Shrub 7 feet high, produce 3 ounces. Antilles.

44. *Gossypium* (Karpas) *herbaceum* L. sp. 7, 8 R. B. sem. ovata scabra nigra, angulo uncinato barbato—this is the common cotton native of Asia, the *black seed C.* of North Amer. akin to the *green seed C.* or *G. hirsutum* not mentioned by Rohr: several varieties 1. *barbatum*, end of seed smooth, perennial, 6 feet high, producing 5 ounces of cotton. 2. *megacarpum*, end of seeds hairy crowned, large capsules, annual, very fine cotton. 3 *vulgaris*, end of seeds hairy crowned, smaller capsules, annual, 3 or 4 feet high, producing 7 ounces of coarser cotton.



4. *perenne*, like last but perennial stem. Italy, Sicily, Spain, Persia, &c.

45. *Gossypium* (Karpas) *guyanense* Raf. 10, 11 R. B. sem. ovata scabra nigra, 7-11 coalitis in loculis, byssus elongatus—small tree 8 to 12 feet high, producing two crops yearly and each tree 12 to 24 ounces of finest cotton, one of the long staples, native of Guyana and Brazil, 2 var. 1. *verum*, Surinam Cotton, seeds 9 to 11 in each cell forming a narrow pyramid, 2 *braziliensis*, Brazil Cotton, seeds 7 to 9 forming a broad pyramid.

46. *Gossypium* (Leiophaium) *convexum* Raf. 12 R. B. Foliis convexis, sem. levis fuscata venosa, postice apice barbata, angulo antice ad apice longior, byssus laxis—in S. Marta, 8 feet high, gives two yearly crops of fine snowy cotton easily plucked.

47. *Gossypium* (Leiof.) *tenax* Raf. 14 R. B. sem. levis fuscata venosa, apice coronata penicellata, angulo uncinato, byssus tenax—Antilles, 10 to 12 feet high, producing 4 ounces of fine long cotton, but very difficult to pluck.

48. *Gossypium* (Leiof.) *fuscum* Raf. 13 R. P. sem. levis fuscata venosa, apice postice villosa, angulo uncinato, ad apex brevior, byssus fuscatus—tree 12 to 15 feet high, native of Asia, cotton dirty redish brown difficult to pick.

49. *Gossypium* (Leiof.) *pallens* Raf. 16 R. B. sem. levis fusc. venosa, apice tomentosa, angulo uncinato, byssus rubescens—from Asia also, 6 feet high, cotton paler than last, redish, 3 ounces.

50. *Gossypium* (Leiof.) *asiaticum* Raf. 19 R. B. sem. brevis vix ovata levis fusc. venosa, apice barbata villosa, byssus albus—Asiatic, akin to last, same size, leaves, glands, flowers,

but fruits, seeds and cotton different, producing 6 ounces each tree of fine white cotton.

51. *Gossypium* (Leiof.) *amblospermum* Raf. 15 R. B. sem. levis fusc. venosa, angulo obtuso, apex villosus, byssus laxo—Antilles, 10 feet high, producing only $2\frac{1}{2}$ ounces of cotton.

52. *Gossypium* (Leiof.) *trichospermum* R. 17, 18 R. B. sem. levis fusc. ven. angulo acuto, corona villosa et capillaris, byssus elongato—of South America, New Grenada, Peru &c, tree 12 to 20 feet high, the longest known staple 7 or 8 inches long, a var. has a shorter staple, both difficult to spin.

53. *Gossypium* (Lanigerum) *rupestre* Raf. 20 R. B. sem. subglobosa parva subvillosa, pilis adpressis—found wild in Curazao on rocks, capsules and seeds very small, but cotton silky snowy and strong. Leaves variable.

54. *Gossypium* (Lanig.) *divaricatum* Raf. 21 R. B. Ramis patulis, sem. oblonga villosa coronata pilosa, angulo uncinato—Hayti, 7 feet high branches divergent spreading, gives two yearly crops.

55. *Gossypium* (Lanig.) *sarmentosum* Raf. 22 R. B. ramis procumbens sarmentosis, sem. oblonga, villosa, corona pilosa, antice plana, postice gibbosa—very peculiar African sp. branches drooping or prostrate 5 feet long. Leaves like the last says Rohr, cotton very white.

56. *Gossypium* (Lanig.) *teleium* Raf. 23 R. B. sem. fulvo tomentosa, sulcata tuberculata, macula glabra ad basi antice, byssus colorato—native place unknown, very peculiar seeds with several obtuse angles and furrows, cotton fine of a yellowish brown.

57. *Gossypium* (Lanig.) *cinereum* Raf. 24

R. B. sem. cinereo tomentosa teretiuscula, byssus elongato albo—South America, 7 feet high, giving only one yearly crop of $2\frac{1}{2}$ ounces of cotton similar to that of the Guyana Cotton.

58. *Gossypium* (Lanig.) *isabelum* Raf. sem. rubrofusca tomentosa, teretiuscula, corona pilosa, byssus flaveolus—Asiatic, cotton very fine of isabella yellow, but not very productive.

59. *Gossypium* (Lanig.) *albescens* Raf. 26 R. B. sem. ovata tota tomentosa non apiculata, byssus albescens tenax—several varieties 1. *megaspermum*, large seeds, cotton of a dirty white, 4 ounces per tree. 2. *rubescens*, cotton of a redish white color. 3 *cayenense* small seeds, cotton worthless of a dirty white, very hard to pick, wild at Cayenne.

60. *Gossypium* (Lanig.) *bicolor* Raf. sem. tomentosis ovatis nonnullis cinereis, nonnullis viridis, byssus albo tenax—Trinidad, a singular sp. by two kinds of seeds in the same pods, grey and dark green, wrongly deemed a var. of last by Rohr. cotton fine and white.

61. *Gossypium* (Lanig) *purpureum* Raf. 27 R. B. sem. ovatis tomentosis pilosisque apiculatis, fol. calicibusq, purpureis byssus albo tenax—Antilles and S. Amer. 7 feet high, only $1\frac{1}{4}$ ounce of cotton, petiols, nerves and twigs red.

62. *Gossypium* (Lanig.) *speciosum* Raf. fol. lobis acutis, uniglandulosis, petalis rubro notatis, sem. globosa tomentosa canescens, bysso tenax—from India, small shrub, but with fine citron flowers with a large red spot at base of petals, capsules small, cotton very short whitish. Is it the *G. microcarpon*?

63. *Gossypium* (Lanig.) *cambayense* Raf. *G. religiosus* var. 28 Rohr. B. fol. lobis subrotundis, glandula sepe carens, petalis et sem. ut in 62.—

Blended by Rohr. with the last as varieties of *G. religiosum*, which however appears different from both, taller shrub with larger capsules and seeds than last, but same fine flowers.

64. *Gossypium* (Lanig.) *rohrrianum* Raf. 29 Rohr. sem. tomentosa, glomerata, byssus tenax. Portorico, similar to *G. guyanensis* in every respect except the wooly seeds and shorter staple hard to pick.

There are besides many other kinds of cotton slightly indicated by various writers, but not described; two of them deserve to be acquired and studied.

65. *Gossypium aureum* Raf. Golden Cotton of Dahomey in Africa, of a fine yellow color. .

66. *Gossypium nankin* Raf. the fine pale nankin Cotton of China different from all others.

The silky Cotton of Asia and America is produced by several sp. of *Bombax*, it has a short brittle down, like that of the Genus *Asclepias*.

67. *KAMBALA* Raf. (n. ind.) cal. camp. 4fid. crassus persisteus, cor. o, stam. plura multiseriatis basi monadelphis, antheris cordatis, ov. turb. stylo tereto flexuoso, stigma maximum, pileiforme subtus concavo. Pomum 8locul. sem. plura in pulpa. *Arbor, fol. oppos. fl. pedic. articul. axil. et term*—fam. *HESPERIDES* near *Sonneratia* and *Citrus*. If *Kambala* is too barbarous, I propose *Mycostylis* applying to the style like a *Fungus*.

68. *Kambala pendula* Raf. (*Sonneratia apetala* Buch. ic. auct.) Ramis pendulis, ramulis brachiatis, fol. petiol. ovato lanceol. integris carnosus avenis, pedunc. cernuis—fine tree of Ava, with habit of weeping willow. *Sonneratia* differs by cal. urceolate 6fid, 6petals, different style &c.

69. *EPISTEIRA* Raf. (on sterile) monoica, fl. masc. cal. 6part. obl. obt. 3 reflexis alt. cor. o, antheris pluris lin. adnatis ad pistillo sterilis. obl. vel. monadelphis instar. fl. fem. cal. 6part. subul. persistens, ov. magnum orbicul. depres. stylo unico breve, stigma cavum 6dent. caps. sulcata 9-12locul, 9-12 valvis septiferis, loculis 2-3 sp. sem. serialis centralis. *Frutex, fol. alt. stipulatis, fl. axil*—quite unlike *Agyneia* with m. fl. 5parted, 8 stam. 3 styles, caps. 3cocus, hardly of same family Euphorbides, type of a tribe with valves septiferous and united stamens, or akin to my *MEBORIDES* see fl. tel. 1117. *Meborea* chiefly differs by 3 anthers inserted on 3 styles.

70. *Episteira coccinea* Raf. (*Agyneia* do Buch. ic. auct.) ramulis angulatis, fol. petiol. lanceol. obtusis, stipulis subul. fl. fascic. axil. masc. pedic. fem. sessilis mixtis—Birman empire, singular shrub, fl. yellow, fruits scarlet..

71. *YANGAPA* Raf. (n. ind.) diff. *Gardenia*, cal. 5gonus, cor. hypocrat. limbo 5-6part. Antheris 5-6 tubo adnata, stylo apice dilatato compresso, stigma adnatum sulcatum. Drupa obl. 5carinata umbilic. nux subbiloc. sem. plura in pulpa nidulans—*Gardenia* differs by cor. infund. and a berry, stigma bilobe &c. yet both same family.

72. *Yangapa flava* Raf. (*Gardenia coronaria* Buch. ic. auct.) fol. petiol. ovatis acum. fl. axill. sessilis solit. corollis venosis flavis—Birman Empire, small tree. The *G. Gardenia* was formed by many anomalous sp. this and the 3 next *G.* must be separated.

73. *ROTHMANNIA* Th. Raf. diff. *Gard.* cal. lac. teretis acutis, cor. campanulata lac. acutis &c. Type *R. capensis* Thunb. *Gardenia rothmannia* L. auct..

74. *PLEIMERIS* Raf. or *Thunbergia* Mont. 1773, Sonnerat &c, (not of Lin. what date?) diff. *Gardenia*, cal. limbo 4-6part. lac. unguic. appendic. cuculatis, cor. 7-10fida hypocr. tubo longo, antheris 7-10, stigma obliq. sulcatum. *Arbor, fol. vertic. fl. term.*

75. *Pleimeris capensis* Raf. Thunb. do M. S. Gard. *thunbergia* L. auct. fol. ovatoobl. acum. undul. &c—see authors, how could this fine tree be united to *Gardenia*! is the *Thunbergia* of L. anterior or posterior to this?

76. *XEROMPHIS* Raf. (dry omb.) diff. *Gardenia*, cor. hypocr. hirsuta limbo 5part. lac. rotundis. bacca exsuka umbilicata 3locul. sub 3valvis *Frutex spinos.*—the berry totally unlike *Gardenia*, yet still of same natural order.

77. *Xeromphis retzi* Raf. (*Gardenia dumentorum* Retz. Vitm.) fol. obov. integris. spinis axil. oppos. fl. solit. brevi ped,—East Indies, a small bushy shrub, flowers small and white.

78. *CURNILIA* Raf. cal. 5phyl. petaloideis, stam. 5. ov. lib. subrot. stigma sessile. *Drupa* ovatoobl. 1sperma. *Frutex sarment fol. oppos. fl. axil. corymbosis*—rather doubtful affinities, probably of my fam. *Rivinidia* or *Amyrides*.

79. *Curnilia sarmentosa* Raf. (Curinil Rh. 7. 25. Bosc) Fol. petiol. ovatis acutis integris, corymbis ramosis axil—Malabar, flowers yellowish white, drupes green, inside whitish bitterish as well as the white seed in the kernel.

80. *LASIPANA* Raf. (hairy quite) *Echinus* Lour. non L. diff. *Aker*, dioic. fl. m. cal. monoph. squamosus villosus ineq. cor. o. stam. 30. fl. fem. cal. vill. ineq. 5-6part. ovar. bilobo, stylis 2 villosis. caps. 1-2 coalitis globosis 1sp. villosis—*Arbor fol. sparsis simpl. fl. ped. later*—very near *Aker* and *Fothergila*, family of *AKERIDES*

the name of Loureiro was same as a *G.* of animals and besides did not apply.

81. *Lasipana tricuspidis* Raf. fol. pet. ovat, acutis integris tricuspidisque subtus villosis, pedunculis ramosis—Anam or Cochinchina.

82. *RETAMA* Raf. (n. arab) *Lygos* Ad. *Apartium* Neck. Leguminosa diff. *Spartium* cal. bilab. camp. lab. sup. 2fida, inf. 3dent. stam. basi monadelphis ineq. coalitis, antheris eq. obl. petalis subeq. vexil. cucul. stig. obt. glabro, leg. subinflatis brevis monosp.—This fine distinct *G.* has been by turns put in *Spartium*, *Cytisus* and *Genista*! several types.

83. *Retama albiflora* Raf. *Spartium* monosp. L. auct. b. mag. 683, *Genista* monosp. Dec. Lind. b. reg. 1918 &c—ramis virg. ter. striatis nudis, juniorib. fol. lin. sericeis, racemis ovatis Sicily, Spain, Africa, Arabia, beautiful shrub seen alive, fl. white fragrant: main type of *G.*

84. *Retama lutea* Raf. *Spartium* spherocarpum L. auct. and perhaps other sp. Necker adds to his *Apartium*, the *Sp. contaminatum*, *aphyllum*, *scorpias*, *purgans*, *sepiarium*, *junceum* &c, belonging to other groups. All these akin Genera are yet in utter confusion, authors blending them, and refering sp. by habit only! without attending to different calix, petals, stamens, stigma, pods, . . . according to Adanson his *Lygos* (sp. spherosp.) has cal. urceol. 5dentate, and seed flat.

85. *LUGAION* Raf. (*Apartium* sp. N.) diff. *Spartium*, cal. tubul. 5dent. vexillum reflexo obcord. stigma villosum, leg. ovatis vel obl. compressis, sepe 2-3sp.—This will include many sp. *aphyllum*, *etnense* (Sp. trisp. Sm.) *umbellatum*, *angulatum*, *multiflorum*, *linifolium*, &c, all *Spartium* of authors. Besides *Sp. radiatum*

with pods ovate polysperm, and *Sp. ferox* with pods linear falcate polysperm, probably 2 other subgenera.

87. *NUBIGENA* Raf. diff. *Retama*, cal. lab. sup. truncato, leg. compr. curvo undul. glabro polyp. — nearer to last by pods but type very near *Retama*.

88. *Nubigena tenerifa* Raf. *Spartium* and *Cytisus nubigenus* auct. flowers white and fragrant as in *Retama*, but axillary fasciculate.

89. *VERZINUM* Raf. (n. lat.) diff. *Spartium*, cal. 5partitus patens ineq. bilab. petalis magnis rotundis. Leg. tomentoso compr. undul. polyp. — Types *V. patens* and *arboreum* Raf. *Spartium* do auct.

90. *Spartium* L. Ad. Necker, &c. cal. camp. ventricosus 2lab. lab. dilat. sup. 2dent. inf. 3dent. vexil. refl. obcord. stam. monad. stig. glabro Leg. planum polyp. sem. planis — this G. is thus reduced for type to *Sp. scoparium* and such others as may be found to agree thereto, *Sp. biflorum* probably &c.

91. *LYGOPLIS* Raf. (armed spart.) diff. cal. tubulosus membranosus sub. 2lab. vel. subintegro, stig. villosus, Leg. ovato vel obl. compr. 2-4sp. — This perhaps includes many or most of the spinose kinds, altho' there are yet some anomalies, such are *Lyg. spinosum*, *villosum*, *horridum*, *ferox*? They are as akin to *Ulex* as to *Spartium*. 3 others *Sp. contaminatum*, *sepia-rium* and *cytisoides* are now forming the G. *Lebeckia*. Some of the spinose *Genistas* may also belong to *Lygoplis*; *Genista* of L. and co-pists hardly differs from their *Spartium* except by oblong narrow incumbent vexillum: their *Cytisus* by diadelphous stamens and pedicellate

pod ; but it is not always so, and a crowd of deviating sp. must all be examined.

92. **GENISTA** Raf. Corniola Ad. cal. urceol. ineq. 5dent. vex. angust. obl. incumbens. stam. monad. Leg. planum polysp.—Type *G. tinctoria*, and all the sp. agreeing with it. Decandole in his flora Gallica united all the *Spartiums* to *Genista*! even the monosperm kinds.

93. **AVORNELA** Raf. Chama-spartium Ad. *Genistella* Tourn—diff. *Genista*, cal. bilab. tripart. lab. sup. bifido, inf. 3dent.—This as a *G.* or subg. must contain many sp. of *Genista* and *Cytisus*, such as *G. canariensis*, *candicans*, *linifolia* &c. Adanson adds the *Cytisus* 6 and 9 of Linneus.

94. **EUTELINE** Raf. diff. *Genista*, vexillum emarg. amplum planum (ut in *Spartium*) alae ovaes, carina dipetala rostrata, Leg. oligosp.—Types *Genista germanica*, *sagittalis*, *decumbens*, with others having such corolla.

95. **LABURNUM** Raf. diff. *Cytisus*, cal. urceol. vel. camp. subbilab. 5dent. vexil. unguic. marg. reflexis, stam. basi monad. Leg. stipit. compr. polysp.—Type *Lab. pendulum* Raf. or *Cytisus laburnum* auct. which has some var. perhaps species, and many other akin agreeing thereto.

96. **CYTISUS** L. auct. cal. tubul. vel ventricosus trifidus, vix bilab. lab. inf. integro vel bident. vexil. amplum stipit. stam. diadelphis? Leg. stipit.—Types *C. capitatus*, *purpureus*, *glaber* and others akin. Nearly all the botanists except Linneus, Smith &c ascribe monadelphous stamens to the whole Genus, except *C. cajan*.

97. **DIAXULON** Raf. diff. *Cytisus*, cal. villosa tubuloso caliculato, 5fidus, vexil. villosa, stam. monad. Leg. longum compr. polysp.—Types *D.*

argenteum, prolifer &c Cytisus of authors. My names of Diaxulon, Euteline, Avornela, Lygation, Verzinum, Axiron, were all ancient names of akin shrubs. The real Cytisus of the latins has been proved to be *Medicago arborea*.

98. CAJANUM Raf. Cajan Ad. cal. urceol. 5dent. vexil. erectum, alae horizont. plana, carina obtusa. stam. diadelpha. Leg. obl. transverse striato oligosp. sem. pisiformis hilo exarata—American and tropical genus totally unlike: Cytisus cajan of L. and Authors, and there are several sp. blended probably; my *Caj. thora* or Cytisus *pseudocajan* Jaq. is another and *Cyt. violaceus* Aubl. is probably a third, altho' the pod is stated to be oval disperme, perhaps a subgenus.

99. AULONIX Raf. (can. claw. (diff. Cytisus, cal. inflato tubul. bilab. sup. emarg. inf. 3dent. vexil. reflex. emarg. unguis canaliculato, stam. monadelphis, ov. lin. stylo filif. stig. acutum. Leg. sessile subteres polysp.—Type A. *biflorus* Raf. (Cytisus do Lher, auct. Edw. b. reg. 308) foliolis 3 sess. obov. fl. binatis flavis. Hungary.

100. MEIEMIANTHERA Raf, diff. Cytisus, cal. campan. membr. bilab. trifido, lab. inf. ovato integro, vexil. obov. amplum, stam. monad. *antheris alternis minoribus*, Leg. obl. polysp.—Type *M. Eolica* Raf. (Cytisus do Guss. Lindl. b. reg. 1902) incana pilosa. ramis teretis, foliolis ternis ellipt. racemis term. thyrsoideis, fl. ternis ebracteatis, leg. glabris—Eolian or Lipari Islands, quite a distinct G. akin to Crotalaria by anthers unequal 5 smaller; whence the name.

CENTURIA II.

101. *ACMOSTIMA* R. (hook stig.) diff. *Pavetta*, cal. camp. 5dent. cor. hypocrat. limbo 5fid, stam. 5, antheris longis, stylo filif. stigma hamatum. caps. 2loba 2sp—Quite distinct from the *G. Pavetta* of Rheede adopted by L. but same family, two types.

102. *Acm. longifolium* Raf. Pav. barbata Sm. auct.—Fol. obl. glabris pedalis, fl. panic. dichot. tubo corolla brevis intus barbato—Shrub of Polynesia with flowers white very fragrant, leaves one foot long, 2 inches wide.

103. *Acm. brevifolia* R. Pav. pentandra Sw. auct.—Fol. ellipt. acum. brevis, fl. panic. 3chot. axil. tubo cor. longior imberbis—Shrub of Antilles called Wild Coffee, flowers as in last. If the capsule is baccate, this with smooth tube might form a G. or subg. *Osmax*, the real *Pavettas* have a berry, corolla infund. 4fid, 4 stamens &c.

104. *RHAMNUS* linnean Genus including many trees and Shrubs totally unlike, forming 20 Genera at least. *Zizyphus* and *Paliurus* have been generally adopted, but *Frangula* and *Alaternus* of Tournefort and Adanson less so, while the 8 Genera of Necker out of *Rhamnus* have been neglected or not referred except *Berchemia*. The whole requires yet a total revision as to G. and Sp. which I can only attempt here in part, proposing Genera.—The real *Rhamnus* is dioical, has a 4fid calix, no petals, 4 stamens, 1 style, stigma 4fid. and a berry bilocular 4sperme. The types are *R. catharticus*, *infectorius*, *dauricus*, *oleoides* and other similar Species, the American *R. catharticus* is probably peculiar.

105. *ALATERNUS* T. Ad. cal. 5fido, petalis 5planis, stam. 5, stylis 3 vel. st. 3fido, Bacca 3locul. 3sperma.—There are doubts on this G. as to characters and sp. Linneus and Smith ascribed to *R. alaternus* a single style but 3 stigmas, many sp. have been blended in the type, which I shall now distinguish as they have partly been by Miller, Rozier, Duhamel, Tschoudi &c, all have evergreen leaves and axillary racemes.

106. *Alaternus ovatus* Raf. Inermis, fol. ovatis crenatis. South of Europe; probably the var. *latifolius* of Persoon &c.

107. *Alaternus lanceolatus* Raf. subspinosus, fol. lanceol. serratis.—This appears the real *Rh. alaternus* of L. who ascribes to it geminate deciduous spines, pyramidal small tree of South Europe.

108. *Alaternus integrifolius* Raf. Inermis, fol. ovatolanceol. integris.—Spain, large leaves.

109. *Alat. balearicus* Raf. Rhamnus do Duh. subspinosus, fol. subrotundis, spinulosis denticulatis—small shrub of Balearic Islands.

110. *Alat. cordatus* Raf. fol. remotis subcordatis serratis.—Italy, I have seen all these alive. What other Sp. belong here must be ascertained; the *Rh. sphaerospermus* is stated to have a trifid style, and 1 to 3 seeds in the berry; *Rh. hybridus* is certainly an *Alaternus*. Also *Rh. glandulosus*, *pumilus* and *prinoides* auct.

111. *FRANGULA* T. Ad. Girtanneria Sp. Neck. diff. *Alaternus* Hermaphr. stylo unico, stig. 2-3, bacca uniloc. 2-3sp.—Types 1 *Fr. vulgaris* Raf. *Rh. frangula* of botanists, 2 *Fr. latifolia* Raf. Rhamnus do auct.

112. *Frangula fragilis* Raf. fl. lud. 320. fol. petiol. obl. cuneatis, acutis integris, fl. fasc. pe-

dunc.—Louisiana, shrub 15 feet high, calix urceolate 5dent. stigma 3lobed, pentandrous &c.

112. *GIRTANNERIA* Raf. Herm. cal. persistens campan. 4-5lobo, petalis nullis, discus incrassatus cal. coalito, stam. 4-5 cal. alt. ov. 3lobo, bacca uniloc? 3sperma—I confine the name of Necker to this Sp. the characters are from L'her. and Hooker; the persistent calix and disk are peculiar, 2 types.

114. *Girtan. alnifolia* Raf. Rhamnus do Lher. t. 42 auct. fol. ovat. subcord. subacum. dentic. nervis puberis, pedunc. dichot. cal. obt. baccis globosis purpureis—Missouri and Hudson bay, fruits edible.

115. *Girtan. franguloides* Raf. Rh. do Mx. Pursh &c—fol. ovat. acum. serrulatis, nervis puberis, pedunc. unif. cal. acutis, baccis turbinatis nigris—Lake Champlain Mx. wrongly united to last by Hooker and others, perhaps not even of this G. deemed dioical by Mx.

106. *CARDIOLEPIS* Raf. neog. Hermaphr. cal. campan. 5fidus, lac. 3gonis intus carinatis, petalis 5 minutis squamif. obcord. cuculatis, stam. 5 involvens, antheris sess. ov. 3lobo, stylo crasso, stigma 3lobo. Baccis globosis 3loc. 3Sp.—very distinct G. of mine disc. in 1820 published 1825, leaves commonly distichal, fl. axil. fasciculate, several types of North America.

117. *Cardiolepis nigra* Raf. fol. ellipt. utrinque acutis subintegris, subtus glabris, baccis nigris—Kentucky on rocks, minute green flowers.

118. *Cardiol. rubra* Raf. fol. ellipt. acutis integris subundul. subtus pubescens, baccis rubris—Kentucky, margin of streams, larger shrub. Is it the *Rhamn. lanceolatus* of Pursh?

119. *Cardiol. obtusa* Raf. (Rhamnus alnif Pursh. Rh. purshianus Dec. Hook. fl. t. 48) fol

ellipt. obtusis serrulatis subtus pubesc.—Missouri and Origen: the characters given by Hooker exactly agree with my Genus, he calls the petals bifid and style trifid.

102. *Cardiol? spinosa* Raf. spinosa, baccis ellipt. rubris—a very doubtful sp. having only seen the berries, in West Kentucky.

121. *PERFONON* Raf. (n. grec.) diff. *Cardiolepis*. cal. lac. acutis planis, petalis integris. ovar. ovatum, stigma subintegrum, obtusum, baccis glob. uniloc. 3sp.—very near to last G. yet with many distinctions, two types.

122 *PERFONON laurifolium* Raf. Arboreum, fol. ellipt. acutis subintegris, lucidis glabris, juniorib. subt. pubescens, petalis reniformis, stig. vix emarg.—In Origen Mts. seen alive in Bartram's garden, where it forms a tree 20 feet high, the berries form fine clusters and assume 3 colors, being by turns green, red and black when fully ripe.

123. *Perfonon? ferrugineum* Raf. Rhamnon do Nut. fol. obl. ellipt. acutis integris, juniorib. calicibusque ferrugineo toment. petalis cuneatis, stigma 3fidum—In Florida, compare *Rh. ellipticus*, see 144.

124. *SARCOMPHALUS* Raf. Hermaphr. cal. 4fid, petalis nullis, disco umbilicato carnosio, stam 4, stylus bifidus, stig. 2 acutis bacca umbilic. 2 locul. 2sperma—such are the characters of the type *Sarc. retusus* Raf. *Rhamnus sarcomphalus* of authors; but other Sp. are similar altho' the disk is not so striking, *Sarc. carolinianus*, *prunifolius*, *mauritanus*, *levigatus* &c (all *Rhamn.* auct.) besides the two next shrubs.

125. *Sarcomph. shortianus* Raf. *Rhamn. shorti* Nut. fol. ovatoobl. acum. subserulatis,

nervis puberis, florib. subternis.—Kentucky on rocks small shrub, near to *S. carolinianus*.

126. *Sarcomph. grecus* Raf. Rhamn. pubescens Sm. fl. greca t. 239. fol. obov. rhombeis villosis subintegris, fl. masc. petaloideis, femineis apetalis—Greece, perhaps a subgenus.

127. *Afarca* Raf. (n. gr.) dioica, cal. 5fidus, petalis nullis, stam. 5, stylo trifido, stig. 3, bacca 3loc. 3Sp.—akin to *Alaternus*, perhaps a subg. of it, type.

128. *Afurca parviflora* Raf. Rham. minutifl. Mx. with a very peculiar habit by leaves subopposite and flowers spicate, instead of fasciculate as in general.

129. *Atadinus* Raf. (n. gr.) dioicus, cal. 4fid. lac. reflexis, petalis bifidis, stam. 4, bacca 2loc. 4Sp.—near to *Rhamnus*, but petals as in *Cardiolepis*, type *At. alpinus*, *Rhamnus* do auct.

130. *Oenoplia* Raf. Herm. cal. 5partitus coloratus basi persistens, petalis 5 planis amplis, stam. 5, stigma simplex bacca uniloc. 2sperma ad rudimento cal. insidens—Type *O. lineata* Raf. *Rhamnus* and *Ziziphus* do auct, but fruit a true berry, calix quite peculiar.

131. *Blepetalon* Raf. (cil. pet.) diff. *Oenoplia* cal. 5fidus, petalis ciliatis, stylo unico persistens stigma simplex? Bacca ad cal. circumscisso insidens. *Fol. oppos. distichis, stipulatis, fl. axil. umbellatis*—habit unlike the other *Rhamnoides*, perhaps not even of this family, type.

132. *Blepet. aculeatum* Raf. Rhamn. circumscissus L. auct.—Ramis angul. aculeis recurvis, fol. obcord. subdenticul.—East Indies, flowers white.

133. *Mystacinus* Raf. diff. *Alaternus*, petalis cymbiformis convolutis, stylo 1, stig. 3. fl. hermaphr. *Ramis cirrhiferis*—Type *M. cirrhiferus* Raf. Rhamn. *mystacinus* Ait. auct.

134. *ENDOTROPIS* Raf. diff. *Cardiolepis*, petalis integris, stylus bifidus, bacca 2loc. 2sp.

135. *Endotr. oleifolia* Raf. Rhamn. do Hook. fl. t. 44. fol. semperv. lanc. obl. acutis subt. pubesc—Origon, very different from *Rh. oleoides* L. see 104.

136. *DECORIMA* Raf. (ten pits) Herm. cal. crassus 5partit. ad basis 10 foveolis, pet. 0, stam. 5. stig. 2 crassis, baccis 2sp?—Two types with different leaves and habit, perhaps subg.

137. *Decor. umbellata* Raf. (Rham. do Cav.) fol. opp. subcord. glabris, fl. umbel. Mexico.

138. *Decor. trinervis* R. (Rham. do Cav.) fol. alt. ovatis subt. toment. trinervis, fl. axil.—Luzon.

139. *MARCORELLA* Neck. Raf. Herm. Cal. 5fidus, pet. 5 planis lanc. stam. 5 ad basis callosis, stylo 1, stig. 3, capsula 3loba 3valvis 3sp.—very distinct by capsule like next, types *M. colubrina* and *cubensis*, Rhamn. do auct. both American.

140. *ATULANDRA* Raf. diff. *Marcorella*, cal. 4fidus, petalis 0, stam. 4 non callosis, stylis 3—name meaning unwarty stamens, two types.

141. *Atul. valentina* Raf. Rham. do W. P. V. pumilus Cav. Inermis, fol. ovato subrot. subcrenatis—East Spain.

142. *Atul? arragonensis* Raf. Rh. do Vitm. Spinosus, fol. fascic. linearibus—North Spain.

143. *DIPLISCA* Raf. diff. *Marcorella*, stylo tripartito, capsula 3cocca 6valvis—singular G. with capsule and double valves.

144. *Diplisca elliptica* Raf. Rh. do Ait. &c, *Ceanothus reclinatus* Lher. Ramis ferrug. toment. fol. ellipt. acut. integris.—Antilles. The stamens are opposed to petals as in all Rham-

nides, but the capsule is very peculiar, almost tricapsular. These 3 capsular G. are near to *Colletia* and *Ceanothus*.

145. *LITHOPLIS* Raf. Herm. cal. 4fid. petalis o, stam. 4, ov. immerso in disco, stylo 1, stig. 4fidum Drupa! subinfera vel adherens 4sperma!—If as Cramer and Persoon assert this G. has an adherent ovary, it is not even of this family, but nearer to *Phylica* and *Myginda*. The name means weapons of the Stones.

146. *Lithoplis saxatilis* Raf. Frangula do Cramer, *Rhamnus* do L. and all authors, altho' nearer to *Ziziphus* by fruit.

147. *FORGERUXIA* Neck. Raf. Dioica, cal. infundib. 5fidus, petalis o, stam. 5 in sinubus, stylo 1, stig. 3, bacca uniloc. oligosp.—near to *Alaternus* and *Afarca*, yet distinct from both. Type *F. repens* Raf. *Rhamn. pumilus* auct. *rupestris* Scop. probably 2 sp. blended, since some deem it hermaphr. or with petals, meaning something else.

148. *PALIURUS ACULEATUS* Jus. Lam. Raf. (*australis* G. P.) *Rhamnus Paliurus* L. W. auct. *Aspidophorus* Necker—very distinct G. now adopted by all; but the *Paliurus* of Tourn. and Ad. was *Ceanothus* L.

149. *ZIZIPHUS* T. Ad. Lam. Dec. Vitm. &c, blended in *Girtanneria* and *Berchemia* by Necker, only a subg. in Persoon, containing nearly all the *Rhamnus* Sp. with a bilocular drupe; but there are yet some G. mixt with it.

150. *SAUROBROMA* Raf. (Lizard food) diff. *Ziziphus*, Monoica, petalis exiguis squamif. drupa uniloc. nux crassa rugosa monosperma—Type *S. iguanense* R. *Rham.* and *Ziziphus* do auct.

151. *BERCHEMIA* Neck. Dec. *Oenoplia* Hedw. Pers. differs from *Ziziphus* by calix urceolate

not patent, drupe with 2 ovulas but only one perfect kernel. It is a climbing Vine instead of a Shrub, and two sp. appear to be blended in *B. volubilis* of which the synonymy is much confused.

152. *Berch. undulata* Raf. fol. ovatis vel lanceol. integris undul. fl. hermaphr. subumbellatis—Pennsylv. to Virginia, this is the Sp. of L. W. Ait. and Northern States, the *Rhamnus scandens* Hill h. k. t. 20.

153. *Berch. repanda* Raf. fol. ovatoobl. repando crenatis, fl. dioicis subspicatis—Carolina to Louisiana, the Sp. of Mich. Walter, Elliot and Southern States.

154. HETHINGERIA Neck. Colletia Scop. non Jus. diff. Ziziphus cal. 5fidus persistens, petalis 0, stylis 2, stigm. 2 bifidis, drupa monosp.—Type doubtful, very near to *Saurcibroma* by fruit, and also to *Condalia* of Cavanilles, which differs by disk and single style.

155. AMPELOPLIS Raf. (armed vine) cal. 5fid. corolla 5fida, stam. 5opp. stylo 1, stig. 3, bacca 3sperma. *Sarmentosa spinosa, fol. alt. fl. glomeratis spicatis interruptis*—not even of Rhamnides family if corolla really monopetalous as stated by L. rather akin to Myrsine and next Genus, habit quite peculiar.—*Ampeloplis chinensis* Raf. *Rhamnus theizans* L. auct—Ramis sarment. divaric. striatis, fol. ovat. serrulatis—China, affording an inferior Tea.

156. VERLANGIA Neck. cal. caliculatus, campan. 5part. corolla camp. patens 5part. stam. 10, alternis sterilis, stylo filif. stig, 2-3, Drupa nux 2-3loc. 2-3sp. *spinosa fol. fascie. fl. confertis axil.*—United *Rhamnus* and *Eleodendron*, quite distinct from both: two types lately blended as

Eleodendron argan by nearly all botanists, both seen and distinguished by myself, besides a third from India.

157. *Verlangia sicula* Raf. *Rhamnus* do and *5phylus* L. auct.—frutex ramis ferrugineis, fol. fascic. petiol. cuneatis integris, fl. confertis sessilib—Sicily and Lybia, small shrub, fruits small worthless.

158. *Verlangia argan* Raf. Arborea ramis leviusc. fol. solit et fascic. petiol. lanceol, obtusis integris coriaceis, fl. axil. subsessilis—Mts. Atlas and Marocco, tree 20 feet high, fruits large oval, affording a valuable oil. This is *Eleodendron argan* of Retz and nearly all authors, but the types of *Eleodendron* (*Schrebera* Retz) have a different calix, and no sterile stamens.

159. *Verlangia indica* Raf. *Sideroxylon* L. auct. Caromelli Rh. 5. t. 39—Frutex, fol. subfasc. subrotundis vel ellipticis, crassis nitidis vix crenatis—Malabar, small shrub, fruits acid by turns green, red and black.

Such are the Genera once blended in *Rhamnus*! to include them all in one G. was preposterous, as no common character could be framed for the whole. But there are yet several sp. which cannot be referred with certainty to these reformed Genera, as the flowers and fruits were not described, and some even are not in *Wilde* nor *Decandole*; they must therefore be examined again: some may not even be of the same family. The *Rh. carpinifolius* Pallas has been supposed to be an *Abelicea* or *Planera*; of the *Rh. cuneatus* Hooker neither flowers nor fruits were seen, and having opposite leaves with capitate flowers this indicates quite a different Genus. I find in Vitman *Rh. mystinus*, *nummularia*, *heterogenus* of Burman, *Rh. su-*

rinamensis of Scopoli, *Rh. hydriensis* of Hacquet, which are not even mentioned in late synonymies, and that I cannot refer to my Genera.

160. **NIRWAMIA** Raf. Nir-wam Th. dioica, fl. fem. cal. globoso pateriforme integrum diaphanum, ovar. lib. ovatum inclusum. styl. 0, stig. 3—among the doubtful plants of Thunberg fl. jap. deemed akin to Urticidæ, but perhaps rather to Rhamnides and my *G. Oenoplia* 130, *Blepetalon* 131 by the calix at least.

161. *Nirwamia pellucida* Raf. frutex diffusus fol. alt. pet. ovat. acum. serrat. nervosis glabris—Japan, flowers white pellucid.

162. **SCLEROCLADUS** Raf. (hard br.) cal. prof. 5fidus, cor. cal brevior, limbo 5part. squamis vel nect. in faucis cor. 5 trifidis, stam. 5 cor. oppos. drupa monosp. nux basi foraminul. 2 septo arcuato distinctis—this *G.* was united to 3, all of which are akin to the Rhamnides, having similar habit; they belong to **MYRSINIDÆ**, a family merely different by monopetalous corolla, the nectary or scales are perhaps abortive filaments as in *Verlangia*.

163. *Sclerod. tenax* Raf. *Siderox. Bumelia* do auct. *Chrysophylum carol.* Jaq. obs. 3 to 54. perhaps some other types among the presumed *Bumelias* that differ by cor. 5fid. nect. simple, drupe not pitted. *Manglilla* differs by cor. rotate and no scales.

164. **SPONDOGONA** Raf. (ang. plumb) diff. *Bumelia*, drupis 5gonis, nux 5gonæ 5loc? 5sperma—Type *Sp. nitida* Raf. *Bumelia pentagona* Sw. auct. fruit thus like *Sideroxylon*.

165. **DECATELES** Raf. (10 perf.) cal. ineq. 5partitus, lac. imbricat. concavis, cor. camp. 5fida, lac. intus appendic. sq. nectarif. serratis, stam. 10 fertilis, stylo 1, stig. capit. bacca 3-5loc.

3-5sp. sem. osseis. *Arboreis spinosis, fol. pet. alt. integris fl. fascic. pedunc.*—Two types shuffled into *Sideroxylum* and *Bumelia*, but of another family the Sapotides by stamens not isopetal.

166. *Decateles latifolia* Raf. *Siderox.* decandrum L. W. P. &c—fol. ellipt. planis, spinis axil. validis—small tree, berries black, N. Amer. South New Jersey, discovered by Kalm, seen by few Botanists, by myself without flowers, for additions to the real G. *Bumelia* see my New Flora 545 to 548 where I described 4 new Sp. *Bum. undulata, arachnoidea, denticulata, serrulata.*

167. *Decateles lycioides* Raf. *Siderox.* and *Bumelia* do auct. fol. lanceol. obtusis undulatis, spinis axil. brevis—small tree 8 to 15 feet, not in Canada as stated by L. from Carolina and Florida: the synonymy of these 2 trees is much blended and intermixt.

168. *XANTOLIS* Raf. diff. *Sideroxylum*, bacca disperma (non drupa 5sp.)—Type *X. tomentosa* R. *Sider.* do Roxb. cor. t. 28. W. &c. yellow berries size of cherries, thornless tree of Coromandel.

169. *ILEXIDES* Raf. the G. *Cordia* L. although yet put among the BORRAGINES even by Kunth, is quite akin to those above and the MYRSINITES, differing merely by stamens alternate to corolla, while the styles and fruits are as in the Rhamnides, it is therefore the type with *Ilex* &c of my nat. fam. *Ilexides* 1815, quite distinct from Borrachines by berries or drupes for fruit instead of several akenas as in Labiates, it differs therefore from them as the VERBENIDES from the Labiates. The akin capsular Genera are also my N. fam. *DICHONDRA*—

NIA 1815, both in Nat. Order POLYMIA with many styles or stigmas.

170. *CORDIA* L. auct. only 6 sp. in Lin. 18 in W. Pers. 32 Lam. and Rees Cycl. 26 in Kunth mostly new; thus about 50 sp. are now referred to it at random, in as great confusion as *Rhamnus* was, united by no common character except *style bifid, 2-4stigmas*, since even *Varronia* and the capsular *Patagonula* have been thrown into it! This requires therefore a complete revision which I will partly effect, and will be able to form 12 good Genera out of them, some of which already in Necker. I will confine the real *Cordia* as follows—*CORDIA* Raf. cal. campan. 5dent. persistens cor. subcamp. 5fida, faux pilosa, stam. 5, ovar. 4loc. stylus dichot. stig. 4 obtusis drupa 2loc. 2Sp. *Arboreis inermis, fol. alt. petiol. fl. corymb. hermaphr.*—Thus fixed and reduced this G. will include but few Sp. and protem those not well known as yet, such as many of Kunth; but the types will be the 4 following Sp. besides *C. exaltata, serrata, dentata, levigata, micranthus &c.*

171. *Cordia myxa* L. auct. Vidimaram Rh. 4) t. 37) fol. ovatis supra glabris subtus scabris, subacum. integris, corymbis later. calycib. 10striatis—East Indies, large tree, fl. yellow, drupes globose acuminate, very different from next. Very akin to *Cerdana* and *Coilanthera* by the calix. It must form the subg. *Myxos*. *Cerdana* differs by nectary.

172. *Cordia Egyptiaca* Raf. ramis angul. verrucosis, fol. subrotundis vix acutis, integris supra glabris. subtus puberis, corymbis terminal. subpaniculatis, calycib. levis—I describe this from an Egyptian specimen before me; it was blended with the last by Lin. and all Authors,

although often intimated that the Egyptian tree was different. It is a small tree with small white warts on the branches, leaves not obliquial.

173. *Cordia officinalis* Raf. *C. myxa* var. offic. Lam. &c, fol. ovatis acutis dentate repandis, subtus scabris, calycib. levis—East Indies and Arabia flowers white. The synonymy of this and the two last is quite perplexing, the real *C. myxa* of L. has been deemed a riddle by some, but the calix is peculiar.

174. *Cordia obliqua* Wild. auct. fol. subrot. cordatis integris obliquis levis. corymb. dichot. calycib. levis—In Malabar nearer *C. egyptiaca* by the calix.

175. COILANTHERA Raf. diff. *Cordia*, cal. tubul. 10striatis, 5-8dent. cor. infundib. plicata 5-8fida, stam. 5-8, filam. subul. basi villosis, antheris obl. concavis. Drupis acum. nux 5striata 2loc. 2sp —Type *Coil. rotundifolia* Raf. *Cordia* do R. P. t. 148 auct, fol. ovatis subrot. crenatis scabris, corymb. dichot.—Peru.

176. SEBESTENA Ad. Raf. diff. *Cordia*, cal. tubul. obl. 3fido, cor. infund. 4-6fida, faux glabra, lac. sepe crenul. stam. 4-6, stigma 4 recurvis, drupis obov. fl. paniculatis—this includes many sp. blended in *C. sebestena* of authors, and difficult to distinguish, besides the section *Sebestena* of Kunth, and some others,

177. *Sebestena scabra* Raf.—The American Sp. of Dillen, Catesby 2 tab. 91—fol. cordatis acutis integris scabris, fl. rubris—Antilles, Bahama &c.

178. *Sebest. repanda* Raf. *C. do Jaq. &c* fol. ovatis serrato repandis, fl. rubris—South Amer.

179. *Sebest. indica* R. fol. ovatoobl. scabris, florib. flavis—East Indies, the proper linnean Species.

180. *Sebest. senegalensis* Raf. *Cordia* do Poiret, Martyn &c. In West Africa, corolla 4fid.

181. *QUARENA* R. (n. ind) diff. *Cordia*, corolla campanul. 5dent. intus glabra, stigm. acutis. *Frutesc. spinos. fl. racemosis axil.*—If not a G. at least a peculiar group or subgenus. Types *Q. spinescens, indica, sinensis*, Raf. all *Cordia* auct.

182. *ECTEMIS* Raf. (out half) diff. *Cordia*, cal. 4dent. corolla hypocrat. 8fida, stam. 8 basi villosis, drupis 4loc. 4sp. obovatis—very distinct G. by double parts in corolla and fruit.

183. *Ectemis lutea* Raf. *Cordia* do Lam. Rees. fol. ovatis obtusis crenatis, fl. corymbosis, calycib. striatis—Peru, akin to 175.

184. *CARPIPHEA* Raf. (visc. fr.) diff. *Cordia*, cal. tubul. cor. infund. lac. 5 magnis obov. stam. inclusis in tubo subul. basi dilat. drupis globosis extus sulcatis intus glutinosus. *Corymbis axil. monoicis.*—Type *Carp. dentata* Raf. *Cordia monoica* Roxb. W. &c.

185. *NOVELLA* Rumf. Raf. Salimori Ad diff. *Cordia*, cal. tubul. 3-6dent. cor. infund. plicata 6-7loba, stam. 6-7, antheris versatilis, stylo unico, stigm. 4-5. drup. 4-5loc. 4-5sp. *fl. racemosis*—striking G. yet blended in C, *sebestena* by Linneus who refers Rumfius figure to it.

186. *NOVELLA NIGRA* Rumf. 2. t. 75. Raf. *Cordia subcordata* Lam. &c—fol. cordatis integris pubescens—tree of Moluccas called Salamari, flowers spicate incarnate.

187. *FIRENSIA* Scop. Neck. Raf. (*Colococca* sp. Br.) diff. *Cordia*, cal. 5-6dent. cor. infund. 5-6loba, tubus angul. faux villosa, stam. 5-6 exertis, antheris sagittatis, bacca uniloc. sepe monosp. *fol. verticillatis, corymb. axillar.*—This

G. and the last deviate widely, and the habit of this is like the Rubiaceae, Necker states the calix to be 5-6parted, and the corolla hypocrat, perhaps so in one Sp. then a subg. several types.

188. *Firensia fusca* Raf. *Cordia colococa* L. auct. fol. subsess. lato ovatis, fusco pilosis, cal. intus toment. fruct. albo—Antilles, small tree, branches pilose, leaves 3-4 unequal, corolla 6fid.

189. *Firensia hirsuta* Raf. *Cordia* do W. &c, C. Coloc. Aubl. 1. to 86. fol. sessil. obl. pubescens, fruct. albo obliquo acum—Guyana.

190. *Firensia lutea* Raf. *Cordia* 4phyla Aubl. t. 88 &c, fol, petiol. obovatis glabris, fruct. luteo—Guyana, Shrub, calix 5dent. cor. 5lobed, fruit like an olive.

191. TOQUERA Raf. diff. *Cordia*, cal. tubul. 5dent. cor. hypocrat. limbo rotato 5lobo, ovar. villosa, drupis monosp. fl. racemosis—Type *Toq, tomentosa* Raf. *Cordia toquera* Aubl. auct. Is this the real *Firensia* of Necker? but leaves alternate, habit quite unlike.

192. COLOCocca Brown, Raf. diff. *Cordia*, calix urceol. 5lobo, cor. tubulosa tereta, limbo 5fido reflexo, antheris 2loc. sagittatis. fl. umbellis racemosis.

193. *Colococca macrophyla* Raf. Coloc. platyphyllos Br. *Cordia macroph.* L. auct. fol. ovat. villosis sesquipedalis—Jamaica, large tree fruit red.

194. GERASCANTHUS Raf. diff. *Cordia*, cal, infundib. 10striatus, subintegro tomentoso, cor. infundib. 4-Globa, stam. 4-6 drupis turbin. fl. paniculatis, corymbis gemellis.

195. *Gerasc. scaber* Raf. *Cordia gerasc.* L. auot. fol. ovat. lanceol. scabris—tree of Jamaica.

196. BORELLIA Neck. diff. *Cordia*, cal. turbin.

lobo, lobis subrot. acutis, cor. hypocrat. 4loba, lobis acutis planis, stam. 4, stylus 1, stig. 2, bacca globosa uniloc. 4pyrena.—Quite distinct G. near to *Varronia* and *Ilex*.

197. *Borellia aspera* Raf. *Cordia tetrandra* Aubl. auct. fol. ovatis obliquatis subtus asperis—Guyana, large tree, flowers green, berries white.

198. *ACNADENA* Raf. (tip gland) diff. *Cordia*, cal. tubul. ineq. 2-5fidus coriaceus, persistens cupularis, cor. ovata 5fida, lac. reflexis, stam. 5 filam. barbatis, antheris oblongis apice glandulosis, stylo simplex tereto, stig. 2, drupis acum. fl. racemosis panic—very peculiar G. nearer *Ehretia* than *Cordia*.

199. *Acnad. elliptica* Raf. *Cordia* do Sw. W. &c fol. obl. subcoriaceis, racemis diffusis—Antilles.

200. *Varronia* which has been wrongly merged in *Cordia* by Kunth, differs from my *Cordia* by corolla tubular crenate plicate, fl. spicate, see 115 fl. tellur. my *Catonia* fl. tel. 116, is akin to *Firensia* and *Toquera*. All these G. as well as *Ehretia*, *Cerdana* and akin, belong to my Nat. tribe of *ILEXIDES*; I had once made a family of *Ægiphila* (and akin *VERBENIDES*) with equal corolla and stamens, which must also be united thereto, forming a subfamily *ÆGIPHILIDES* having single styles and berries instead of drupes. See my revision of *Ilex* and *Prinos*. But *Patagonula* is of another tribe.

CENTURIA III.

201. *PAXISTIMA* Raf. 1817. diff. *Myginda*, cal. 4fidus, petalis 4, stam. 4 epidiscus pet. alt. discus cal. ovarisque apice coalescens, ov. lib. sed ad disco concreto, stylus 1, stig. capit. crasso, bilob. caps. 2loc. 4sp.—*fol. oppos. ped. axil*—very singular G. united to *Ilex* and *Myginda*, although quite unlike, nearer to *Evonymus* and *Polycardia*, same family of Celastrides different from Rhamnides by alternate stamens. *Myginda* differs by 4 styles and a monosperm drupe, *Rhacoma* wrongly united thereto is nearer, but a real *Ilexides* by corolla 4parted. The singular connection of the calix and ovary at top by the disk, is an anomaly found in some Melastomes and perhaps in *Lithoplis* 145, I cannot well ascertain the fact in my dry specimens; but suspect these 2 G. may indicate a small natural group, to be called **SYNODISCOIDS**.

202. *Paxistima myrsinites* Raf. 1817. *Ilex* do Pursh, *Myginda myrtifolia*, Hook. fl. t. 41. fol. opp. ellipt. serratis, ped. axil. 3floris—*Origon*, habit of *Evonymus*.

203. *BOURRERIA* Br. Jaq. Ad. Kunth, &c, diff. *Ehretia*, cor. hypocrat. tubo elong. limbo plano, lac. dilatatis vel obcord. drupis 4gonis, 4sulcat. nucibus 2 utrinque 2sp. fl. *corymbosis*.—To this belong, *B. baccata* (E. bour. L.) and *B. exsua* Jaq. perhaps some others, more like some *Cordias* than *Ehretias*.

204. *TRAXILUM* Raf. diff. *Ehretia*, cal. 5part. stylus dichot. stig. 4, fl. *corymb. spicatis*.—It is stated that this G. has the stigmas of the *Cordias*, the flowers of *Tournefortia*, fruit of *Ehretia*, and a peculiar calix.

205. *Traxilum asperum* Raf. Ehr. do W.

Roxb. cor. 55 &c. fol. ovatis scaberimis, fl, secundis—Coromandel.

206. *PILOISIA* Raf. (head hairy) *Dasicephala* sp. Kunth. diff. *Varronia*, cal. inflat. cor. infund. lac. emarg. stig. 4 obtusis, *fl. capitalis*—Kunth has united to *Cordia* the capitate *Varronias* forming this G. but they probably contain also several blended G. the *Varr. humilis* is stated to have a single nut 2locular in the drupe. The types of my G. are *Pil. globosa*, *curassavica*, &c. The real type of *Varronia* should seem to be *V. alba*, with fl. cymose, limb of corolla campanulate, nut striate &c, with akin cymose species.

207. *TOPIARIS* Raf. diff. *Varronia*, cor. hypocr. tubo longo, limbo plano lato lobato, *fl. racemosis*.—Thus corolla as in *Bourreria*, but habit peculiar, put in 2 Genera by authors.

208. *Topiaria geniculata* Raf. Var. do Pers. mirabiloides Sw. W. Jaq. Vitm. &c *Tournefortia serrata* L. Lam. &c—fol. ovatis rugosis serratis, fl. racem. secundis, ped. genic—Hayti.

209. *SUBRISIA* Com. Raf. diff. *Ehretia*, cor. campanul. (non tubul) *fl. panicul. internodalis*—corolla and habit different, G. proposed by Commerson long ago, why not adopted?

210. *Subrisia petiolaris* Raf. Ehr. do Lam. Ehr. internodis Lher. Wild. Vitm. Pers.—Ramis reticul. rimosus, fol. ovat. integris glabris, petiolis scabris. panic. laxis extraxillaris—Mauritius, flowers white fragrant.

211. *DESMOPHYLA* Raf. diff. *Ehretia*, stylis 2, stig. 2 capitatis, *fol. fasciculatis*—Type *D. aliena* Raf. Ehr. fasciculata Kunth, his *E. tomentosa* and *ternif.* appear true *Ehretias*, altho' the leaves are opposite and corymbs axillary, having one style &c.

212. *AQUIFOLIUM* T. Ad. *Ilex* L. auct. name posterior, and of an Oak. The *Ilex* of the Authors hardly differs from *Prinos*, the numbers of parts and stigmas not being uniform, but requiring the formation of many G. to be accurate. The rotate and deeply lobed corolla distinguish this group of G. from the group of *Cordias*. I propose now to revise it, and thus fix the true *AQUIFOLIUM* Raf. cal. rotato 4-5dent. cor. rotata 4-5partita, stam. 4-5 epicorolis alt. stig. 4-5 sessilib. obtusis, drupis baccatis 4-5sp. nucib. 1sp. *Arboresc. fol. alt. sepe perennans spinosisque, fl. axil. polyg.*—This will include protum as in *Rhamnus* the sp. that are not well known; but all must be verified: meantime the types will be *Aq. crocea, japonica?* and other Japanese sp. if with 4 stigmas, with the various sp. blended in *Ilex aquifolium* of Authors, which are 5 at least, all seen alive.

213. *Aquifolium undulatum* Raf. fol. ovatis undulatis, margine sinuatis spinosis, supra nitidis, fl. glomeratis, fr. rubris—Mts. of Europe, the most common sp. becoming a tree and less spinose in old age.

214. *Aquif. ferox* Miller, Raf. fol. ovatis subundul. supra margineque echinatis, fl. fascic. fr. flavis—distinct species remarkable by the very prickly leaves.

215. *Aquif. heterophyllum* Raf. fol. ellipt. vix undul. integris acuminatis, nonnullis subspinosis, basi acutis—Europe.

216. *Aquif. planifolium* Raf. fol. ovatis subrotundis planis subdentato spinosis—in Spain, very near *I. opaca* Ait. see 234.

217. *Aquif. lanceolatum* Raf. fol. lanceol. subdent. recurvis, vix spinosis, fl. subumbel. fr. albescens—Germany &c. All these were deem-

ed var. by botanists, but sp. by Gardeners; they are real specific deviations.

The flowers of the Asiatic sp. not being described, it is not yet possible to ascertain if they belong to this Genus or the next or to *Ageria*.

218. *ILEX* Raf. Cassine L. auct. et *Ilex* sp. *Maurocena* Miller, diff. *Aquifolium*, stig. 3, drupis 3loc. 3sp. 3umbilicatis, fl. hermaphr. sepe 5andris.—The main distinction is in the ternary numbers of pistil and fruit; but probably this includes several subg. that may be G. when well described. *Cassine* of L. (a bad name out of *Cassia*) is deemed 5 petalous, but Jussieu states otherwise, my 5 subg. are

219. *CASSINE* R. 5andris, fr. globosis, *fol. oppos. fl. panic. vel corymb. axil.* such are my *Ilex* (*Cassine*) *capensis, barbara, oleifolia*.

220. *COLPUNIA* R. 4andris, fruct . . . *Evonymus* and *Cassine colpun* of Authors is the type, a doubtful plant.

221. *MAUROCENIA* Miller, 5andris, fruct. 3genis, *fol. opp. alt. fl. fasc. ax.*—Type *Ilex* (m.) *fr. angularis, concava, levigata &c* *Cassine* of Authors.

222. *OSTEORAX* Raf. 5andris, drupis non baccatis duris osseis, *fol. alt. ped. dichot.*—Type.

223. *Ilex* (*Osteorax*) *xylocarpa* Raf. *Cassine* do Vent. Pers &c—*fol. petiol. ovatis*—Antilles, American like the next all the others are African.

224. *EMETILA* R. 5andris, stig. 3 reflexis, *fol. alt. fl. fasc.* deemed 5petalous by Robin.

225. *Ilex* (*Emetila*) *ramulosa* Raf. *Cassine* do Raf. fl. lud. 363—*fol. lanceol. lucidis semperv. crassis subserratis*—Florida, Louisiana. Shrub thickly branching 12 feet high, berries round? with 3 umbilics. One of the Shrubs

used as emetic by the Indians; it cannot be the *Cassine peragua* L. described with opposite elliptic obtuse leaves, and as yet a doubtful plant, although now referred to *Ilex cassena*, my *Ageria* 235.

226. *AGERIA* Raf. (this name was used by Adanson for the *G. Prinos* and *Myrsine* united, but I now apply it to a *G.* medial between *Ilex* and *Prinos* of authors) *Macoucoua* Aubl. *Ilex* sp. auct—diff. *Aquifolium*, cal. 4fid persistens, cor. 4loba, stam. 4, stigma unicum sessile simplex. fl. sepe dioicis.—It will include nearly all the American sp. of Authors, which have a single stigma; but it varies in shape, and may serve to form subg.

227. Subg. *MACUCUA*, stig. glob. obtusum. fl. 4lobis sepe dioicis.

228. Subg. *DAHUNIA* R. stig. bilobo. fl. dioicis, 4partitis.

229. Subg. *PALTORIA* R. P. stig. magno 4gono integro. fl. herm.

It is not always easy to discriminate between the 2 first, as the sp. are referred to *Ilex* at random, without attending to the flowers. We have no good monograph of the North American sp. whose synonymy is quite perplexing: I shall however give some types.

230. *Ageria* (mac) *acuminata* Raf. *Ilex* do W. *macucua* Pers &c, mac. *guianensis* Aubl. Lam.—Arborea fol. ovatis integris, apex acum. emarg. pedunc. cymosis fl. herm.—Guyana, large tree, white fl. as in all akin.

231. *Ageria* (mac) *retusa* Raf. frutescens, ramis cinereis, fol. petiol. obovat. crenatis obtusis retusis, fl. dioicis, fasc. petiolis eq.—West Kentucky, in swamps, shrub 3 to 5 feet high,

leaves sometimes subfasciculate, discovered 1818, long deemed a doubtful *Ilex*.

232. *Ageria* (mac) *uniflora* Raf. frut. ramulis cinereis unifl. fol. ovatis oblongisve utrinque acutis petiol. remote serrulatis, subtus et petiolis pubesc. fl. dioicis, cal. ciliolatis—Shrub of Alabama, branchlets terete with 1 to 3 leaves and a terminal flower, berries pisiform, stig. globose depressed, calix almost square.

233. *Ageria* (mac) *mucronata* Raf. frutesc. ramis albo punctatis, fol. subfascic. obl. vel ellipt. subobliquis integris, basi acutis, apice mucronatis, tenuis glabris, pedunc. axil. 3-7fl. subverticillatis, pet. longior fl. dioicis—Apalachian Mts. shrub 4 feet.

234. *Ageria* (mac?) *opaca* Raf. *Ilex* do Ait. auct. This sp. and *laxiflora*, with the habit of *Aquifolium*, have the stigma simple, and 4 sterile filaments in the female flowers; wherefore perhaps a peculiar subg. **NOTHOLEX** Raf. Robin was mistaken to state the stamens opposed to corolla, else it would be removed from the family. Corolla 4parted as in *Dahunia*, calix not persistent as in *Ageria*, thus a peculiar *G.* perhaps.

235. *Ageria* (Dah) *cassena* R. *Ilex* do and *Vomitoria* auct. This ought to be the type of *Dahunia*, along with the akin sp. to which Elliot ascribes 2 stigmas, really one bilobe or bifid, and often only 2 seeds. But *I. prinoides*, *ligustrina*, *angustif.* *myrtifolia* &c, are so blended and confused, each author appearing to mean a different kind, that I must leave their settlement for a peculiar Monograph.

236. *Ageria* (Dah) *palustris* Raf. *Ilex* dahun Walt, Mx. P. E. . II. cassine L.—fol. obl. lanceol. coriaceis lucidis semperv. acutis integris, juniorib

spinoso serratis, pedunc. axil. 6-10fl.—Swamps of Carolina, such is at least the sp. of Elliot; but besides this I have 2 others under the name of *I. dahun*, therefore 3 sp. are blended, that of Mx. had pubescent branches and calix.

237. *Ageria* (Dah) *obovata* Raf. (*I. dahun* Baldw.) Ramulis glabris angulatis, fol. petiol. obovatis brevi acum. integris lucidis, fl. sparsis, ped. 1-5floris—Florida, leaves thinner although evergreen, my specimen is male, stamens erect.

238. *Ageria* (Dah) *heterophylla* Raf. Ramulis subteretis glabris, fol. petiol. coriaceis cuneatis vel obl. integris vel apice subserrul. apice acutis obt. retusis, pedunc. sparsis bifloris—Florida & Alabama, leaves very unequal in size and shape, some few obovate retuse almost obcordate, peduncles as in last extraxillary scattered.

239. *Ageria* (Dah) *geminata* Raf. Ramulis angulatis glabris, fol. sess. obl. vel. lanceol. utrinq. acutis serrulato-crenatis, deciduis, pedunc. unifl. geminatis sparsis—Apalachian Mts. leaves thin unequal, fl. small on short peduncles, probably one of the sp. blended in *Ag. cassena* that has oval obtuse leaves and fl. fasciculate. My specimen is male. In this as in all the Dahuns and *Notholex*, the corolla is 4parted deeper than in *Macucua*.

240. *Ageria* (Paltoria) *ovalis* R. Paltoria do R. P. *Ilex* Paltoria Pers. &c—fol. ovalib. crenatis, ped. sub3floris—Peru on Mts.

241. *SYNSTIMA* Raf. diff. *Aquifolium*, stigma unicum sessile capitatum 4 sulcat. lobatum, instar 4-5stig. coalitis, fol. deciduis fl. dioicis—thus as near to it than to *Prinos*, to which united, the types are the various sp. blended in *Prinos ambiguus*; all with flowers 4-5androus on the same shrubs or even branches. Hardly

a subg. of *Ageria*, as the stigma appears formed of several coalescent, each answering to a seed.

242. *Synstima acuminata* Raf. Ramis angul. fol. ellipt. vel lanceol. acumin. basi acutis, mucronato serratis, subtus nervis pubesc. pedunc. multifl. petiolis brevioribus—Apalachian and Wasioto Mts. disc. 1823.

243. *Synstima rotundifolia* Raf. Ramis teretis, fol. subfascic. obov. subrot. utrinq. acutiusc. apice serrul. petiolis et subtus pubesc. pedunc. fascic. pet. longior—Florida. this has the calix and corolla 4lobed as in *Ageria*, *Macucua*, and perhaps it is of that group, although some fl. are 5androus, stigma not well seen.

244. *Synstima caroliniana* R. Cassine do Walt. Prinos ambig. Mx. E, Ramis teretis virgatis, fol. subsess. ovali-lanceol, acum. subcrenatis, subtus pubesc. fl. masc. fascic. fem. solit—Carolina, a small shrub like the others, stigma well described by Elliot.

245. *ARINEMIA* Raf. (male half) diff. Prinos, fl. masc. 3fidis, 3andris, femineis 6fidis, stigma 3lobum, fruct. 3sperm—very peculiar by half numbers in male flowers. Monotype.

246. *Arinemia lanceolata* Raf. Prinos do Pursh, auct—fol. lanceol. serrul. glabris, fl. masc. fascic. fem. geminatis—Carolina.

247. *PRINOS* Raf. dioica vel monoica, cal. rotato 5-6fid. cor. rot. 5-6fida, stam. 5-6, stigma unicum sess. globoso vix lobato, bacca uniloc. 6sperma. *fol. deciduis*. The type of this *G.* as now restricted is *Pr. verticillatus*, and other akin sp. commonly hexandrous. The other sp. will belong to the *G. Synstima*, *Arinemia* and *Ennepta*. From *Ageria* it chiefly differs by fruit uniloc. rather a berry than a baccate drupe, with more than 4 stamens and seeds: the berry

also is different from *Aquifolium* and *Synstima*. Types.

248. *Prinos reticulatus* Raf. Ramis subangul. purpureis albo punctatis, fol. glabris ellipt. acum. basi acutis, argute serrulatis, subtus reticul. pallidis, axil. 2-3fl. pet. brevior—Shrub of Alabama, leaves 2 or 3 inches long, fl. white small, calix stellate 5-6fid, corolla with 5 or 6 lobes oval obtuse.

249. *Prinos rugosus* Raf. ramis subangul. fol. lato ellipt. utrinque acutis serrulatis, supra rugosis, subtus reticul. nervis pubesc. axilis 1-3fl. pet. brevior baccis globosis—in Kentucky, very near the last perhaps a var. or the female, 3 to 5 feet high, berries globular subsessile.

250. *Prinos punctatus* Raf. ramis rugosis albo punctatis, fol. obovatis acum. ineq. serratis subtus pubescens, axilis 1-3fl. pet. brevior, baccis ovatis—Mts. Alleghany, large leaves, berries globose ovate, stigma capitate, entire, female calix 6-7dentate often pubescent. Var. *angustif.* fol. cuneatis obl. nervis lutescens, cal. pubescens.

251. *Prinos verrucosus* Raf. ramis angul. verrucosis, fol. obl. utrinque acutis, mucronato serratis, subtus retic. nervis pubesc. axilis unifl. petiolo eq. baccis ovalib.—Mts. Alleghany, 3 to 4 feet high, calix colorate, berries red as in all but ovate, warts commonly white on fuscate branches.

252. *Prinos parvifolius* Raf. ramis levis subangul. fol. parvis ovatis obovatisque utrinque acutis, apice serratis, subtus glabris, axilis unifl. pet. brevior, calicib. obtusis—Apalachian Mts. small shrub bipedal, branches whitish, young shoots yellowish, leaves hardly uncial, calix not acute as in the others.

253. *Prinos longipes* Raf. ramis angul. sub-

verruc. fol. obl. acutis, apice remote serratis, subtus glabris, axillis unifl. elongatis pet. longior—Virginia &c, akin to the *Pr. integrifolius* of Elliot but with flowers polygamous 6androus. All the above may have been overlooked or blended with *Ilex prinoides*, and *Prinos ambiguus* of Authors.

254. *Prinos verticillatus* L. differs from all these by flowers umbellate agregate almost verticillate, and is a larger Shrub. *Pr. integrifolia* by entire mucronate leaves, long pedicels, flowers 6-7androus &c.

225. *NEMOPANTHES* Raf. 1817. Dec. Hook. &c. This G. of mine one of the few now generally adopted was based on the *Ilex canadensis* of Mx. but I think it includes 2 sp. the essential character of the G. is in the calix of male fl. very minute entire, corolla 3-5parted not rotate, stamens 3-5, stig. 3-5lobed sessile, but the quaternary number chiefly prevails.

256. *Nemop. canadensis* Raf. *Ilex* do Mx. t. 49 auct. fol. obl. lanceol. utrinque acutis subintegris, fl. masc. geminatis, fruct. sub4gono—Canada, Hudson bay, and boreal regions.

257. *Nemop. fascicularis* Raf. fol. subfasc. ovalis ellipt. ovatisque integris acutis, vel obtusis, fl. masc. fasciculatis, fruct. subgloboso—Mts. and hills of New England and New York: this was my original sp. of the Catskill Mts. perhaps only a variable deviation; sent me also from the plains of Ohio and near Lake Erie.

258. *BRAXYLIS* Raf. diff. *Aquifolium*, 4fidis fl. stam. 4, stylo brevis, stigma unicum obtus. drupa uniloc. 1-2sperma—Here begins to appear a short style as in next, lacking in all others.

259. *Braxylis obcordata* Raf. *Ilex* do Sw.

auct. fol. sparsis obcord. coriaceis avenis, ped. brevis 3fl.—Mts. of Jamaica.

260. *ENNEPTA* Raf. (9-7) diff. Prinos, cal. 7-9 fid, corolla 7-9part. stam. 7-9, fl. fem. stam. sterilis castratis, stylo brevis crasso, stigma unicum 3-4lobo, bacca 6-8 sperma, *fol. perennis* &c—This appears to include all the evergreen sp. of Prinos, the style is conspicuous. It has 3 types 1. *Ennepta myricoides* Raf. Pr. glaber, all are glabrous in this G. 2 *E. coriacea*, 3 *E. atomaria*, these 2 last deemed var. by many.

261. *LYCIUM* L. &c. This G. although very akin to Ehretia, Cordia &c, has been put into the SOLANIDES tribe! the main distinction was the single stigma and more seeds in the berry, and yet sp. with berries 1 or 2 loc. or a capsule! calix 3 to 10 dentate, cor. 4-10fid, and 4 or 5 stamens are united. The 5 nameless sections of Kunth must certainly be as many Genera, and there are more blended. The real *Lycium* Raf. has—cal. urceol. ineq. 5fidus, cor. tubulosa limbo 5part. rotato patens, stam. 5 exertis villosis stylo erecto, stigma bilob. bacca 2loc polysp. *spinosus*, *fol. sepe fascic. fl. sepe gemin. extraxil*—This will include *L. europeum*, *barbatum*, *chinense*, *salsum*, *floribundum*, *guayaquilense*, *ruthenicum*, *caspicum*, *lanceolatum* and others akin thereto. It answers nearly to the first section of Kunth; but he wrongly blends thereto some sp. of *Cestrum* & *Atropa*. The 2 next sp. have been omitted by nearly all Authors.

262. *Lycium siculum* Dacria, Vitm. fol. obov. subpetiol. integris, fract. trigono—Sicily, seen alive.

263. *Lycium indicum* Retz. Vitm. Inerme, fol. oppos. petiol. ovatis utrinque acutis nervosis

—India, erect shrub, stipules spiniform-soft, fl. dull purple. Neither of these is in Persoon &c.

264. *PUKANTHUS* Raf. (n. gr.) diff. *Lycium*, cal. regularis sinuato 5dent. filam. basi barbatis, fl. *corymbosis* &c.

265. *Pukanthus odoratus* Raf. *Lyc.* boerhavif. *L.* heterophyl. *L.* Mur. *Ehretia!* *halimifolia* Lher.—Spinose peruvian shrub put in 2 Genera! and made 2 sp. of *Lycium* by Linneus?

266. *OPLUKION* Raf. (armed *Lyc.*) diff. *Lyc.* cal. camp. 5dent. eq. cor. infund. limbo erecto genit. inclusa fol. *fascicul.* &c.—Types 2 African spinose shrubs my *Opl. afrum* and *horridum*, called *Lycium* by Authors.

267. *VALTETA* Raf. (bot.) diff. *Lyc.* cal. urceol. ineq. 5fidus, cor. tubolosa limbo erecto plicato 5dentato, genit. exertis, fol. *sparsis*, fl. *fascic.*—Types 2 American sp. *V. fuchioides* and *gesneroides* Raf. blended with *Lycium* by Kunth.

268. *DIPLUKION* Raf. diff. *Lyc.* cor. 10dentata stam. inclusis—The doubled corolla is very essential, 3 American types of Kunth my *Dipl. loxense*, *cornifol.* *umbrosum.* Raf.

269. *ASCLEIA* Raf. (shut box) *Johnsonia* Necker 1790 non aliis, an anterior? diff. *Lycium*, cal. persist. 5dent. eq. corolla rotata 5fida, faux barbata, stam. 5, fruct. caps (Lin.) Akena (Neck) clausa ovata 2loc.—Here the fruit is not even a berry, therefore hardly a *Solanides*, akin to *Sessea* with bivalve capsule.

270. *Ascleia mexicana* Raf. *Lyc.* capsulare *L.* auct.—Ramis teretis spinosis, fol. lanceol. glabris tenuis, ped. ax. unifl. pubescens—Mexican Shrub, not in Kunth.

271. *TEREMIS* R. (half cut) diff. *Lycium*, cal. 2-3fidus ineq. lac. bidentatis, stam. 5, filam. de-

flexis supra basin villosa, baccis ellipticis turbinatis.

272. *Teremis elliptica* R. Lyc. barbarum L. auct.—ramis angul. procumb. vix spinosis, fol. petiol. ellipt. baccis ellipt.—North Africa.

273. *Teremis turbinata* R. Lyc. do. Duh. Pers, halimif. Mill. ramis teretib. decumbens spinosis, fol. sess. lanc. acum. baccis turbinatis—China.

274. HUANUCA Raf. (n. per.) diff. Lyc. cal. truncato integro.—Type *H. spathulatum* R. Lyc. do R. P. Pers. fol. obov. spath. fl. axil. fascic.—Peruvian Shrub, not spinose.

275. TROZELIA Raf. (bot.) diff. Lyc. cal. 5gonus, stam. glabra, bacca uniloc. fl. umbellatis—Genus totally unlike. If Trozel has already had a Genus, I substitute *Cantalea*.

276. *Trozelia umbellata* R. Lyc. do. R. P. t. 182 &c. fol. obl. lanceol. ped. ramcis—Peru, not spinose, orange berries.

277. PEDERLEA Raf. 1815, diff. Lycium, cal. camp. cor. urceol. lac. revolutis, stam. glabris, fol. alt. fl. axil—3 Types, but perhaps forming each a subgenus. Pederle was the author of the Forrester manual, if already commemorated I substitute *Triliena* R.

278. *Pederlea aggregata* R. Lyc. do R. P. Pers—fol. obl. acutis undul. subt. toment. fl. fascic—Peru, shrub.

279. *Pederlea arborescens* R. Atropa do L. auct.—fol. obl. lanc. planis glabris fl. fascic—tree of S. America. In this the corolla is revolute, Kunth makes it a Lycium with the next.

280. *Pederlea cestroides* R. Cestrum campanul. Lam. Thus these sp. were thrown in 3 Genera and yet belong to neither!

281. OPSAGO R. (n. lat.) diff. Atropa, cal. 5par

titus toment. cor. toment. camp. lac. revolutis.
Fruticosis—The G. *Atropa* or *Belladonna* was another medley, *Mandragora* and *Nicandra* have been excluded, the Peruvian sp. will afford many G. of herbaceous plants.

282. *Opsago cordata* Raf. *Atropa frutescens* L. auct. cortex rimosa, fol. ovat. cordatis obtusis ped. confertis—Spain and Sicily, seen alive, very different from next although both united by Persoon &c.

283. *Opsago suberosa* R. *Physalis* do Cav. t. 102. Vitm. cortice suberosa, fol. orbicul. ciliatis nitidis, ped. solit—Spain.

The herbaceous *Atropas* of S. America will be shortly mentioned here for contrast, the real *Atropa* has cor. campanul. and bilocular berries. See till 288.

284. *DISKION* R. (n. gr.) *Saracha* R. P. Pers. non Lin. auct. cor. subrotata, bacca uniloc.—many sp. near *Trozelia*,

285. *PLICULA* R. (n. lat.) cor. plicata, flam. basi barbatis ut in *Lycium*—Type *Pl. umbellata* R. the sp. of Roth not of Ruiz, Persoon has 2 sp. under that name, and 2 as *A. biflora*! *A. procumbens* with plicate corolla but smooth stamens is a *Dirkion* by berry, but Roth calls it 2locular.

286. *KUKOLIS* R. (n. ant) cor. tubulosa—Type *K. bicolor* R.

287. *KOKABUS* R. (n. antic) cor. urceol. mellifera, stigma capit.—Type *K. umbellatus* R. the sp. of Ruiz Pavon.

288. *ULTICONA* R. (n. lat.) cor. urceol. infundib. 10fida, lac. 5alt. minorib. stig. 2lobum—3 types *U. biflora*, *aspera*, *viridiflora*, all peruvian *Atropas* of Authors even Kunth, although so widely different by corolla. *Ulticonā* like

Opsago were old latin names of the *Atropa bel-ladona*. Akin to *Diplukion* 268.

289. *Evoista* R. diff. *Lycium*, cal. eq.-4fid, cor. 4fid, stam. 4.—In this numbers are equalized to cells, as the name implies, which is very essential, 2 types, both shrubs.

290. *Evoista spinosa* R. *Lyc.* 4andrum L. &c. fol. ovatis obtusis—S. Africa.

291. *Evoista caroliniana* Raf. *Lyc.* do Mx. &c, *Salsum* Bartr. *Inermis*, fol. obl. spathul. perennans—Florida &c, on Sea Shores, fl. blue, berries scarlet. I doubt if these two shrubs are even congeneric.

292. *CESTRUM* L. This must include all the Sp. with stamens simple, stigma bifid and berry unilocular, such as *C. vespertinum*, *diurnum* &c with akin, the corolla is as in *Lycium*, and the sp. with bilocular berries must probably be united thereto.

293. *WADEA* R. (bot) diff. *Cestrum*, stigma capitat. integer &c probably a subgenus, type W. or *C. latifolia*,

294. *PARQUIS* Ad. R. diff. stam. dentata ad filam (non edentula) all the sp. of *Cestrum* with toothed filaments.

295. *LOMERIA* R. (border wooly) diff. *Cestrum* cor. tubo longissimo curvo, limbo margine lanato—Type *Lom. purpurea* Raf. *Cestr. longiflorum* Ruiz, Pers &c.

296. *PHYSALIS* L. *Alkekengi* Ad. also an artificial G. the real sp. must have calix inflat 5gone 5dentate, corolla rotate &c. But most of the shrubby kinds belong to next.

297. *ALICABON* R. (n. gr.) diff. cal. non angulato sepe venosus inflato, cor. campanul. ut *Atropa*. Types *A. somnifer*, and other frutes-

cent *Physalis* with such calix and corolla, also *A. barbadense* &c.

298. *EPLATEIA* Raf. diff. calix plano rotato, cor. rotata revoluta, typo *Epl. arborescens* and other akin *Physalis*.

299. *EXODECONUS* Raf. diff. cal. tubul. ventricos. 10angul. 5fid. pellucidus—Type *Ex. prostratus* R. the Ph. do Lher. &c, it is an annual, do any shrubby sp. belong to it?

300. *DEPREA* Raf. (bot) diff. cal. urceol. 5fidus, cor. infundib. vel. subcampanul.—Types *D. xalapensis* and *Orinocensis* Raf. *Physalis* do Kunth, corolla very peculiar as in some *Ipomeas*. If Depré had a *G.* let *Orinocoa* be substituted.

CENTURIA IV.

301. *FICUS* L. altho' apparently a natural group of trees and shrubs, it includes many Genera or Subg. see till 317. Linneus had only 17 sp. and now there are 98 in Wild. and Pers. 105 in Smith monograph. Many are little known as yet, and the inside parts difficult to verify have been observed in but few: it is merely surmised they are similar to *Ficus carica*, which was oddly put in *Trioechia*! No one having thought to revise the Genus, I will do it as to Genera, by habit and outer visible parts, chiefly the outer calicule and ombilic of the perianthe and fruit, called by others receptacle.

302. Subg. *SUCOMOROS* periantho turb. vel obov. calicul. minimus sepe tripart. persistens, ombil. squamoso. fol. alternis.—This includes *Ficus carica*, *sycomorus* and many other doubtful sp.

303. Subg. *SPHEROSUKE* Raf. diff. Periantho globoso—many sp. *F. americana*, *tinctoria*,

salicifolia, religiosa, infectoria, granatum &c. Sections may be formed by fruit smooth or rough or villose or tuberculate. *Leiosuke, Traxisuke, Sukoisia* and *Tulosuke*.

304. Subg. KENKRAMIS R. (n. gr.) diff. caliculo diphylo, lac. reflexis—types *F. palmata, pertusa, prinoides, umbellata* &c.

305. Subg. COTTANA R. (n. lat.) diff. caliculo 4fido.—Type *F. lutea* &c.

306. Subg. TEREKA R. (n. ind.) diff. ombil. aperto, squamis pluribus imbricatis—Type *F. ampelas* &c.

307. Subg. SUKEON R. diff. Per. ovato vel ellipt.—Types *F. glomerata, citrifolia*, &c.

308. GONOSUKE R. (ang. fig) diff. periantho angulato villosa vel. hirto, calic. nullus, ombil. multisquamato. *Fol. oppositis*. The habit indicates a *G.* as in next, probably 3 or 4 types with opposite leaves, *Gon. scabra, hispida, demonum* &c, *Ficus* do of authors, blended by Smith in *F. oppositifolia* of Roxburg.

309. VARINGA Rumf. Raf. diff. Sukamoros, per. pyrif. durum, extus scrobiculat. intus fungosum. calic. 3phylus. *Scandens, ramis articul. fol. alt.*—Type *V. repens* or *F. pumilus* L. and probably all the scandent kinds.

310. NECALISTIS Raf. diff. 302, caliculus nullus, fruct. nudo—Types *Nec. turbinata, aspera* &c, and probably many other sp. of *Ficus*.

311. OLUNTOS Raf. (n. lat.) diff. 302 per. globosis, caliculus inequalis multifidus obliq. ombilicus non squamoso trigono marginato vel trilobo—Type *O. trigono* Raf. and probably *O. levigata* with trilobe orifice, but calicule less unequal.

312. PERULA Raf. (n. ind.) diff. 302, caliculus polyphylus magnus ad periantho sepe equalis.—

Types *P. benghalensis*, *rubiginosa*, *retusa* &c, perianthe of 2 forms, whence 2 subg.

313. **REPHESES** R. (covering) diff. periantho duplex, extus caliculans carnosus, deinde calyptrans vel. dehiscens—certainly a very distinct and singular G. with 2 types *R. ovata*, and *calyptrata*.

314. **TREMOTIS** Raf. (hole ear) diff. 302, per turbinato ad apicem umbilicis 5, lateralis 4 pertusis apendice cartilagineo munitis—very curious G probably with many other characters, besides the 4 holes and ears around the central.

315. *Tremotis cordata* Raf. *Ficus auriculata* Lour. M. Sm. fol. cord. subserratis tomentosis, fruct. glomeratis biuncialis rubris.—In Anam or Cochinchina.

316. **MASTOSUKE** Raf. diff. Periantho monoico tuberc. mamillaris, umbil. 3fido, caliculo 3part. distans, intus fl. masc. stam. 1, anthera stipitata renif. uniloc. fl. fem. ovar. pedicel. stylo lateralis—Genus akin to *Oluntos*, one type.

317. *Mastosuke rubiginosa* Raf. *Ficus* do Desf. bot. mag. 2939. *F. australis* W. &c—fol. petiol. ellipt. subcord. obt. subtus rubiginosis, fr. axil. sepe geminatis pedunc.—Australian tree.

318. **ELEOCARPUS** L. another G. blending many, *Dicera* and *Vateria* have been removed, but many others must also. The real types are *E. serrata* and *oblonga* Gaertn. 1, t. 43, which had been blended in *E. monogynus* or *monoceros* of authors: these having 5 multifid petals, anthers equally bivalve, one hairy style, drupe with rough nut, leaves alternate &c.

319. **GANITRUM** Raf. diff. cal. 4ph. petalis 4 trifidis &c.—Type *G. obtusum* R. *Eleoc*, integrif. Lam. P. (Rumf. 3. 192) fol. ovatoobl. obtusis integris.—Tree of Molucas and Mauritius,

that of Loureiro is different and perhaps a *Vateria*.

320. *PERINKA* Raf. (n. ind.) diff. 316, antheris ineq. bivalvis, valva una aristata.—Types *P. reticulata* and *grandiflora* Raf. or *Eleoc.* do of Smith monograph.

321. *MISIPUS* Raf. (n. myth) diff. 316, petalis trilobis non multif. stylis 4, antheris villosis, bacca 4 loc. 8sp. *Fol. oppos.*

322. *Misipus serratus* R. *Dicera* do Forst. *Eleoc. dicera* L. auct. fol. ovatis dupl. serratis—Polynesian tree.

323. *SKIDANTHERA* R. (split anth) *Dicera* Forst. non Lour. nec. aptum—diff. 316, petalis 3lobis non multif. antheris bifidis, stylis 2, capsula bilocul, polysperma *fol. oppos.*—By the capsular fruit not even of *GUTTIFERES* family, nearer to the *HYPERICINES*. *Dicera* meaning 2 horns is hardly a fit name.

324. *Skidanth. dentata* R. *Dicera* do Forst. *Eleoc. dentata* Vahl. &c.

325. *GANDOLA* Raf. (n. ind.) cal. colorato caliculato, extus 3squamis, tubo inflato. limbo 6fido, stam. 6, ovar. 4lobo, stylis 4, bacca 4loba 4sperma. *Frutex volub. fol. alt. fl. spicatis*—quite unlike *Basella* to which united although of same family.

326. *Gandola nigra* Raf. *Basella* do Lour. fol. ovat. subrot. spicis lateralib.—Anam, *G. alba* Rumf. is a second sp. probably and different from *Basella alba* of Linneus.

327. *SILAMNUS* Raf. (myth) Dioic. fl. fem. capit. ut *Cephalanthus* sed corolla 5fida libera stylo filif. stig. acut. ovar. liber. akena nuda ovata compr. monosp. *fol. alternis*—not a *Nau-clea*, not even same family, rather of *VERBENIDES*.

328. *Silamnus procumbens* R. *Cephalanthus* do Lour. auct.—fol. ovato lanceol. petiolatis tomentosis—Shrub of Anam.

329. *Axolus* R. (myth) diff *Cephal.* phorantho villosa, cal. subul. villosis, fruct. baccatus, acinis 2loc. 2sp. *fol. oppos.*—This is of family NAUCLIDES.

330. *Axolus angustif.* R. *Cephalanthus* do Lour. auct.—Arboreus, fol. lineari lanceolatis—Anam.

331. *Gilipus* R. (Hero) diff. *Ceph.* Dioic. fl. fem. adherens 4fidus, cor. nulla, akenae compres. subpapposa. *fol. alternis.*—The lacking corolla is strange, but perhaps it exists in male fl. and is stamiferous, by alterne leaves &c. akin to 327.

332. *Gilipus montanus* R. *Cephal.* do Lour. auct. Arboreus. fol. alt. petiol. ovat. crenat. acum. subtus tomentosis.—Anam.

333. *Eresimus* R. (hero) diff. *Ceph.* cal. libero 4fid subul. cor. adherens 4fida reflexa, antheris 4 sessilib. stylo elong. akenae monosp. *fol. verticil.*—Habit of NAUCLIDES, but the corolla is probably a calix caliculate.

334. *Eresimus stellatus* R. *Cephal.* do Lour. auct. arboreus, fol. ternis lin. lanc. glabris.—Anam.

335. *Croton* L. &c. This G. now vastly increased in sp. Kunth alone having 50 American contains trees, shrubs and plants, quite unlike and not connected by any precise character, of which Adanson made 2 G. and Necker 6, while I must propose over a dozen of them, having nearly the same fruit like EUPHORBIDES, but variable perigone and stamens: my *Croton* and of Necker is monoical and has, cal. teres 5dent. persistens, corolla decidua 5petala, stam. 10

basi connexa, stig. 6, caps. 3valv. 3sperma.—Types all the sp. that are such or yet doubtful, and must be revised. Among the trees are *Cr. alnifolium*, *betulinum*, *gossypif*, *balsamif*.

336. *KURKAS* Ad. Raf. diff. Croton, stom. plurima 15-30, liberis &c. But the G. of Adanson included nearly all the Crotons: the types now are *K. tiglium*, *congestum*, *acuminatum*, *populif*. 4setosum, *laxiflorum* or Aleurites do W. &c, all trees or shrubs.

337. *CINOGASUM* Necker diff. 335, cal. masc. 8phylus deciduus, stom. sepe 15, cal. fem. multipartitus---Type unknown, akin to *Cupamenis*

338. *LUNTIA* Necker, diff. cal. masc. 5part. caliculato, stom 10-12 basi villosis, antheris 4gonis, cal. fem. fimbriato apetalis stylis, et stigm. 12-15---Type *L. sericea* Raf. Crot. do Lam. or *Cr. maturense* Aublet, tree.

339. *CASCARILLA* Raf. Aroton Neck. diff. cal. masc. ovato multif. vel. 10fid imbricato, stom. 10-12, basi villosis, cal. fem. 5partito persist. apetalis---Types 1. *Casc. officinalis* Raf. Crot. casc. L. 2 *Casc. linearis*, *discolor*, *aromatica* Raf. Crot. do auct. and probably other akin scented shrubs.

340. *HALECUS* Rumf. Raf. diff. cal. 5fido, pet. 5lanc, stom. 20-30 liberis, stylis 12 in fl. fem. conformis---Types *Hal. Verus* and *mauritanus*. Croton do Lam.

341. *PENTECA* Raf. diff. dioica, cal. masc. campanul. 5dent. petalis nullis, glandulis 5 globosis, stom. 12 liberis. cal. fem. conformis, stylo 15fido, stig. 15. sem. ovatis.

342. *Penteca tomentosa* Raf. Croton dioicum Cav. auct—fol. lanceol integris subsess. toment—small tree of Mexico.

344. *TRIPLANDRA* Raf. diff. cal. tubulos. 5fidus,

pet. 5 obov. amplis, stam. 15, stig. 3 sessilib. bifidis, capsula ovata tuberculata *fol. oppositis*.

344. *Triplandra lanata* Raf. Croton. do Lour. Mart. (non Lam.) *Cr. erianthum* Sm—Arborea, fol. opp. ovato lanc. integris glabris fl. racem. villosis, masc. superis—Large tree of Anam, flowers white, the opposite leaves are singular, being alterne in others.

345. *CAMIRIUM* Gaertn. Solander, diff. Croton, cal. 2-4lobis ineq. 1 major, petalis 5, stam. 10-15, drupis 2loc. 2sp.—Quite a distinct G. by calix and fruit, hardly of same family, nearer to Aleurites.

246. *Camirium cordifolium* G. S. Croton molucanum L. auct. omitted by some, shrub of Ceylon and Molucas, nuts affording oil.

347. *SEBORIUM* Raf. *Brunsvia*? Neck. diff Croton, cal. masc. tub. 4-5dent. stam. 2-5 liberis elongatis, petalis nullis, cal. fem. parvus persist. 3part. stylis 3 refl. stig, 3 caps. 3loc. 6valvis, 3sp. sem. arillatis semisphericis—very peculiar G. shuffled in many, and very differently described by authors, so as to offer perhaps several sp. the type however is

348. *Seborium chinense* Raf. Croton and *Stillingia sebifera* L. auct—a fine useful tree of China, Tallow-tree, now naturalized in America, well described by all, but flowers sadly mistaken, bracts and calix being taken for calix and corolla. 2 stam. Elliot, 3 to 5 Smith. *Brunsvia* of Necker has 8 coalescent and calix with corolla 3parted: do they mean the same tree? *Crot. nutans* is a second sp.

349. *SEMILTA* Raf. diff. Croton, stam. 5 liberis &c—Types *Sem. althefolia*, a shrub, Croton do Martins.

350. *MEIALISA* Raf. diff. Croton, Dioica, cal.

4partitis, masc. spicatis interruptis, stam. 8, fem. racemosis, *fol. oppositis*—Type *M. australis* Raf. Croton 4partitum Lab. Pers. tree of Tasmania.

351. *CROZOPHYLA* Raf. Codieum, Codebo, Phyllaurea nonnullis auct. nom. pessimum, diff. Croton. cal. masc. 5part. pet. 5squamif. stam. plura. cal. fem. 5fido, pet. 0, stylis 3, stig. 3, capsula tricoca carnosissima—very distinct G. all the names given to it are bad, too like Codia, Codon, *Phyllaurea* is mongrel, mine means colored leaves, peculiarity of many sp.

352. *Crozoph. picta* Raf. Codieum do Juss. b. mag. 3051, Croton do Lod. t. 870 &c—fol. obl. cord. obt. coriaceis nitidis pictis—shrub of India, habit of Aucuba, leaves of 3 colors red, yellow and brown.

353. *Crozoph. variegata* Raf. Croton do L. &c. fol. petiol. lanceol. integris pictis—shrub of India, but 2 other sp. appear to have been blended thereto, the 2 next.

354. *Crozoph. angustifolia* Raf. fol. lineari. oblongis acutis.

355. *Crozoph. elliptica* Raf. fol. ellipticis obtusis.—The *Phyllaurea* of Lour. is one of these.

356. *DITRISYNIA* Raf. neog. 6, diff. Croton and Stillingia—cal. tubul. trifidus, stam. 2-3 coalitis, cal. fem. 3fido apetalis persist. stylo trifido caps. 3loc. 3sp.—This G. and the 3 next were proposed by me since 1825. The type of this is shrubby, my *D. ligustrina* or Stilingia do auct. *Stilingia sylvatica* is totally unlike by calix infundib. bilabiate, 2 free stamens; fem. cal. tubular entire fimbriate &c.

357. *DREPADENIUM* Raf. neog. 5, diff. Croton, cal. 6fid. eq. apetalis, stam. 12, glandulis 6 incurvis ad basis, stylis 3, stig. 9-12—Thus nearer

Phyllanthus, and *Synexemia* neog. 10, than Croton, yet the type is *Croton maritimum* of Walter &c, my Dr. do Raf. and the var. monantho is a 2d sp. my *Drep. dichotomum* R. both plants.

358. *DECARINIUM* Raf. neog. 4, diff. Croton, cal. tubul. 5fidus petalis 5 lanc. peryginis, stam. 10 eq. liberis, cal. fem. 5part. ineq. lac. 2 major, stylis 3 bifidis, stig. 6. caps. 6valvis—Type *Dec. glandulosum* Raf. Croton do L. &c, and probably others not shrubby.

359. *HEPTALLON* Raf. neog. 3, diff. Croton, cal. masc. 4-6part. pet. 4-6obt. lin. stam. 10-14 liberis ineq. cal. fem. 7partito ineq. persistens foliaceis crassis spatulatis, petalis 0, stylis 3 dichot. stellatis, stig. 12, caps. toment. 3loc. 3sp —very distinct G. discovered in 1818 published 1825, based on the next sp. but probably several other herbaceous Crotons may belong thereto.

360. *Heptallon graveolens* Raf. tomentoso, caule trichot. fol. petiol. ellipt. obt. integris, basi cordatis, fl. glomeratis—Kentucky, Tennessee, Illinois &c, smell very peculiar nearly porcine.

361. *Hept. aromaticum* Raf. Croton ellipticum Elliot, Crotonopsis do W. fol. subpet. obl. integris stellato tomentosis, subtus canis, fl. lanc. conglomeratis—Carolina &c.

362. *Hept. ellipticum* Raf. Crot. do Nut. (not of Elliot) differs from last by leaves ovate elliptic obtuse, capsules angular. Louisiana.

363. *Hept. capitatum* Raf. Crot. do Mx. &c, rather doubtful if of this G. like the preceding, this has 6 bifid styles, 12 stigmas.—Illinois and Missouri.

364. *METERANA* Raf. (n. lat.) diff. Croton, cal. masc. 5part. pet. 5 undul. stam. 10, alt. 5 brevior,

pistilo abortivo connexa, antheris bilobis dorso glandul. cal. fem. duplex ext. 3part. int. 5part. petalis 5 parvis, pistil. obl. stig. radiata sessilib. 9-12, caps. 3loba hispida—very distinct G. several types chiefly shrubs, *Meterana* was a latin name of the Chesnut tree.

365. *Meterana castanefolia* Raf. *Croton* do L. auct—fol. ovatis lanceol. obt. serratis glabris spicis axil. dimidiatis—shrub of S. Amer. but a great confusion of blended sp. shrubs and plants exist as *Croton castanif.* to which some add *Acalypha australis* L. as a synonym.

366. *Meterana dimidiata* Raf. *Acalypha australis* L. var! fol. lanceol. obt. serratis petiol. spicis axil. dimidiatis.—Also a shrub of South Amer. called a plant by Smith, who ascribes to the fem. fl. calix 6lobed uneq. 3 alterne larger, and capsule trilobed. If so another G. or section and probably several sp. blended yet. See bot. mag. 2794.

367. *Meterana? palustris* Raf. *Crot.* do L. fol. ovatis lanceol. serratis plicatis scabris, ped. axil. caps. hispidis—annual plant of Mexico.

368. *Meterana? arborea* Raf. *Crot.* castanif. Burm. ind. t. 64, non L.—Arborea, fol. ovat. acum. denticul. glabris, spicis term. fl. alternis —Tree of Java, the flowers of this and last must be verified, probably both new Genera also.

369. *CROZOPHORA* Necker. *Turnesolia* Ad. Scop. diff. *Croton.* stam. 8-10 monadelphis, cal. fem. 10fidus, caps. 6valvis—this includes nearly all the herbaceous *Crotons*, but the types are my *Croz. tinctoria*, *plicata*, and other akin sp.

370. *ODOTALON* Raf. diff. *Croton*, cal. 5-6part. petalis 5-6 utrinque 3-4dent. stam. 5 monadelphis, glandulis 5 alternis—Types *Od. tricuspi-*

data, lanceolata &c, Croton do Lam. W. &c, plants not shrubs.

371. CUPAMENIS Raf. non Ad. (n. ind.) diff. Croton, cal. 4fidus, petalis nullis, Stam. pluris, cal. fem. 8fido, stylis 3---this includes probably several plants at least 3 the *Cr. chamedrif.* Lam. *Acalypha indica* L. *Ac. reptans* W. blended by L. Smith and others. The Cupameni of Adanson was *Acalypha* L.---Thus we have seen that a crowd of G. were blended in Croton, and that even sp. of *Aleurites*, *Stillingia*, *Acalypha* &c. were shuffled among them. Such was the accurate discrimination once called perfection of Botany!

372. LEPTEMON Raf. 1808, Crotonopsis Mx. W. P. &c. This G. was separated from Croton, altho' it differs no more than the above! but the name given was absurd and incorrect. diff. Croton, 5 free stamens, fem. fl. apetalous, 12 stigmas, capsule monosperm, by abortion probably. Type *Lept. lineare* Raf.

373. BERBERIS L. a natural G. if *Odostemon* be excluded, yet greatly enlarged having 30 sp. in Decandole, and there are more, some of which I have seen alive or possess dry; therefore give them here, all prickly shrubs with fasciculate leaves.

374. *Berberis purpurea* Raf. vulg. var. auct. B, *inominata* Kielm,—Ramis angul. spinosis, fol. cuneatis vix ciliatis, fr. ellipt. purpureis acidis—Mts. of Europe, near to B. vulgaris with white or yellow fruits, leaves obovate ciliate serrate, racemes drooping &c.

375. *Berberis nigra* Raf. vulg. var. auct. B. *orientalis* &c Tourn.—Arborea. ramis ang. spin. fol. oblongis vix serratis, fr. ellipt. nigris suavis—Turkey, small tree.

376. *Berberis laxa* Raf. vulg. var. *iberica*? Dec.—Ramis flexuosis angul. tuberculatis, fol. cuneatis spatulatis integris vel subdenticul. reticulatis, racemis erectis laxis, fruct. oblongis—very distinct sp. sent me as *B. canadensis*! spines few trifid, leaves as in *B. chinensis* thin and smooth, fl. small on filiform peduncles, with short subulate bracts. Probably from Oregon and Siberia, the *Iberica* of Dec. with oblong leaves was from Caucasus.

377. *Berberis canadensis* Ait. Dec. &c. Raf. med. fl. t. 15—Ramis angul. punctatis spinosis, fol. obovatis vel ovatis acutis remote serratis, summis subintegris, racemis nutans, fr. ovalis nigris acidis—Canada and Mts. Decandole hints that several sp. are blended, which is the fact as in *B. vulgaris*, see the 2 next of N. Amer.

378. *Berberis serrulata* Raf. Ramis angul. levis vix spinosis, fol. obov. proxime serrulatis, vel ciliatis, racemis pedunc. nutantib. fr. obl, nigris acidis—North America, in New England, New Jersey and Carolina, the synonyms much blended with last and next, but this is probably the sp. of Bigelow and Elliot.

379. *Berberis pisifera* Raf. Ramis ang. scabris spinosis, fol. cuneatis remote dentatis, racemis paucifl. nutans, fruct. subrotundis pisiformis rubris—very distinct N. sp. of Apalachian Mts. of Carolina &c, with small round berries, leaves narrow not ciliate, spines tripartite as in all akin species.

380. *Berberis densiflora* Raf. Ramis subteretib. levib. spinis solit. basi dilatatis, fol. petiol. lato obovatis ciliatis, acutis racemis nutantib. multifi. pedunc. fl. densis imbricatis—very distinct again, although sent me as *B. vulgaris*, leaves and flowers very large, locality unknown

probably Sibiria, but totally unlike *B. sibirica*, *chinensis* and *cretica* which I have.

381. *ODOSTEMON* Raf. 1817, *Mahonia* Nut. 1818. Dec. 1821—This G. was first established by myself, in my Review of Pursh, Nuttal's name was posterior and dedicated to a mere Gardener, not a Botanist. Some authors deem it only a subg. of *Berberis*, but habit different.

382. *DIALLOSPERMA* Raf. (2 diff. seeds) diff. *Aspalathus*, Leg. compresso subtrigono dispermo, sem. 1 renif. 1 globosa, *frutex spinos.*---Type *D. spinosa* Raf. united to *Aspalathus* by all authors.

383. *FAKELOBA* Raf. (lent. pod) diff. *Aspalathus*, Leg. lenticularis monosp.. semen lentic---Type *F. cretica*, a crowd of sp. blended in *Aspalathus*, with leaves fascic. or ternate or pinnate require to be revised and better fixed.

384. *SCALIGERA* Raf. diff. *Aspal.* Stam. monadelphis---*Aspalathus* is diadelphous, *Scaligera* was the name of the whole G. in Adanson. Type. *Sc. orientalis* Raf. and others.

385. *ERIOCYLAX* Necker diff. *Aspal.* Vexil. reflex. carina brevis, stam. monad. Leg. oligosp. *fol. ternatis pinnatisque*---Types the sp. with compound leaves according to Necker.

386. *NEFRAKIS* Raf. (rough kidney) diff. *Aspal.* stam, monadelphis, tubo fisso, leg. renif. bilobo dispermo---Type *N. ebenus* Raf. *Aspal.* do L. tree of Antilles and South America.

387. *SEMETOR* Raf. (flag heart) diff. *Aspal.* stam. monadelphis, vexil. obcord. alae oblongis equante non lunulatis. *fol. pinnatis.*

388. *Semeter arborea* Raf. *Aspal.* do Lour. Mart. Rees, *Arborescens*, fol. quinato pinnatis, fl. racemosis.---Anam.

389. *DAMAPANA* Ad. diff. *Aspal.* cal. 4fidus,

Leg. teres 3-8sp.¹sem. globosis, *fol. pinnatis, fl. spicatis*---Adanson gives for type the *Manneli* Rheed. t. 38, Malabar shrub, my *Dam. manneli* Raf. This first revision of *Aspalathus* was effected by me in 1814, like many other reforms of mine, long before Decandole.

390. *BERNARDIA* Houst. Brown, Ad. diff. Croton, cal. masc. ineq. trifidus, stam. 20 basi coalitis, cal. fem. 5partit. ineq. stylis 3, stig. 3 dilatatis, caps 6valv. *fl. axil.*—I am at a loss to reduce this G. to mine, and had omitted it above, nor can I indicate the type, which Adanson says is in Brown Jam. page 261.

391. *BESLERIA* L. heterogenous medley in authors, Necker separated 2 G. not even of same family! The real *Besleria* with berry unilocular polysperm, calix 5parted, corolla tubulose gibbose unequaly 5lobed, &c has been shuffled in many families, I once put it in *GRATIOIDES*, but have since formed a peculiar family of those G. with berries, *Cyrtandra*, *Brunsfelsia*, *Teedia*, &c, the *BESLERIDES*, differing from *SOLANIDES* by unequal corolla and stamens.

393. *SENKEBERGIA* Neck. diff. *Besleria*, cal. bipartito lacero, cor. hypocrat. limbus subeq. Drup. uniloc. nux 2loc. 2sp. *Herba.*

393. *Senkeb. debilis* Raf. *Besl. bivalvis* L. auct. not a shrub as the others, and not even of same family, but of *VERBENIDES*.

394. *LOPHALIX* Raf. *Crantzia* Scop. Neck. non alis—diff. *Besl.* cal. 5part. cristato-serrato cor. limbo integro, fr. capsula carnosia bivalvis. *frutex scandens fl. involucratis*—also of another family, the *GRATIOIDES*, *Crantzia* has been applied to several other Genera.

395. *Lophalix bicolor* Raf. *Besleria cristata*

L. auct. fol. ovatis, ped. axil. inv. 5phylo—Shrub of Antilles, flowers with red calix, yellow corolla.

396. *Lophalix coccinea* Raf. Besl. do Aubl. auct—fol. ovat. acum. carnosus, fl. corymbosis, invol. 2phylo—Guyana.

397. **HEMATOPHYLA** Raf. (bloody leaf) Dahlbergia Tussac non alis diff. Besl. cal. 5phyl. laciniatus, cor. tubul. gibbosa, subbilab. bacca uniloc. sem. pariete affixa. *Herba*.—In Besleria the seeds are in the pulp, same family.

398. *Hematoph. villosa* Raf. Besleria sanguinea Turp. Pers. Kunth—villosa, fol. obl. serrat. macula sanguinea—Hayti.

399. **FIMBROLINA** Raf. diff. Besleria, cor. ventricosa, 5fida, laciniis reflexis inequalis fimbriatis.—Perhaps only a subgenus, plant not shrub.

400. *Fimbrol. incarnata* Raf. Besleria do Aubl. auct. tomentosa, fol. ovat. crenatis petiol. fl. solit. axil.—Guyana. The two sp. of Kunth with corolla campanulate are akin or form another subgenus.

CENTURIA V.

401. **STERCULIA** L. this G. is now the type of a family **STERCULIDES** differing from Malvacea and Bombaxides by no corolla, and pistil on a podogyne. Ventenat, Smith and Lamark have given Monographs of it, increasing it to 20 sp. while Linneus had only 3, but their sp. are a medley of trees without hardly any common character except that of the family. The types must be those having the linnean characters of calix 5part. rotate patent, stamens 15, podog. terete solid concave, ovary 5lobed, one style and stigma capsule formed of 5 polysperm lignose follicles. Such is *St. foetida* and the next.

402. *Sterculia villosa* Sm. fol. 5lobis tomentosis cordatis dentatis.—Coromandel.

403. BALANGHAS Raf. diff. calix urceolatus 5fidus apex connivens, capsul. duris 5lobis intus carnosus, loculis 2spermis.—This has also 2 types blended in *St. balanghas* L. 1 *B. telabo* Raf. 2 *B. rubiginosa* Raf. Sterc. do Vent.

404. CAUCANTHUS of Forsk. diff. Sterc.—cal. 5part. reflexo contorto, ovar. conico, stylo 1, stig. 5lobo, folliculis 2-3sp. reticulatis.—Type *F. planifolia*, Sterc. do L. auct. India, Arabia, Egypt, now naturalized in Carolina, flowers fragrant instead of stinking, commonly hermaphrodite, seldom polyg. amous, not monoical as in the others.

405. IVIRA Aubl. diff. St. stam. 10, filam. coalitis in cupula pilosa 5fida, antheris 2 ad lac. affixis, stig. 5radiatum. caps. 2-5 polysp. fl. herm.—Type *I. pruriens* Aubl. or *Sterculia ivira* and *crinita* auct. good G. wrongly blended. *St. frondosa* is perhaps a 2d sp.

406. KAVALAMA Raf. diff. St. cal. campan, 5fidus, stam. 10, podog. conico, stylo 1, stig. 5lob. —Type *K. urens* Raf. Sterc. do Roxb. W. &c. Kavalam was a malabar name given to the whole G. by Adanson.

407. KARAKA Raf. (n. ind) diff. St. cal. tubul. clavato, podog. exerto filif. antheris 15 confluens stylis 5 recurvis. caps. 5 pendulis reticul. dispersis—Type *K. colorata* R. St. do Roxb. t. 25. &c. In this G. as in next the 5 styles indicate a great disparity, and perhaps exclusion from the family.

408. BRAXIPIS Raf. (short under) diff. St. cal. subcamp. patens, podog. brevissimo, stylis 5—two types.

409. *Braxipis grandiflora* Raf. Sterc. do Vent. &c Herm. fol. ovatis acutis—Indies.

410. *Brax. nitida* R. St. do V. &c. Dioica, fol. oblongis acuminatis—East Africa—Is it a *Colaria*?

411. *CLOMPANUS* Rumf. diff. Sterc. cal. infundib. 5fidus &c.—Type *Cl. molucanus* Raf. Rumf. 3 t. 107.

412. *SOUTHWELLIA* Salisb. diff. Sterc. cal. camp. lac. introflexis. caps. monosp.—two types
1. *S. nobilis* Sal. par. t. 69. St. monosp. auct. 2
S. longifolia Raf. St. do Vt.

313. *COLARIA* Raf. diff. St. cal. subrot. 5-6 part. Podog. brevis, ov. 5-6lob. styl. 1, stigma 5-6, caps. 5-6 monosp,—The African name of Cola-nut was known since Bauhin, but the tree only described by Palissot, 2 types.

414. *Colaria acuminata* Raf. Sterc. do. Pal. Lam. fol. obl. acum. coriaceis integris, fl. panic—Central Africa.

415. *Colaria heterophylla* Raf. Sterc. do Sm. fol. sepe trilobis dentatis—Africa.

416. *OPSOPEA* Necker diff. Sterc. cal. campan. 5fidus, stam. 12-14, capsulis 5 divaricatis—Type *O. fetida* Raf. Sterc. helicteres Jaq. Pers. Helicteres apetala L. auct. a passage to the *G. Helicteres* that is akin to *Sterculia*. Linneus quotes *Firmiana* of Marsigli for this.

417. *CULHAMIA* Forsk. Vitm. diff. Sterc. cal. campan. 5fido, lac. reflexis, stam. 15, antheris sessilis ad cal. inserta, vel filam. adnatis. Stylo incurvo, stig. capit. caps 5 basi coalitis 5sp.—united to *Sterculia* and even deemed *St. platanif.* by some, although quite different tree.

418. *Culhemia triloba* Raf. fol. cord. trilobis, lobis ovatis repandis, racemis axil. bracteatis—large tree of Arabia, leaves 4 inches long, flowers rusty green.

Add above, my *Balanghas* has been called

Ferronia by Correa, a good name previous to mine but not to that of Rheede, Necker changed Ivira into Theodoria, both being good the previous of Aublet must be preferred.

419. *HELICTERES* L. akin to *Sterculia*, and of same family not *Bombaxides*, having petals and a podogyne. Containing many blended Genera also, Necker had 3; put by the Linneists into 4 of their classes by turns. If they had chosen to give the true character it ought to have been, petals 5 or 10 or none, stamens 10 or 20 or many, capsules stellate or spiral, e valve or bivalve, such is the absurdity of these medleys. Adanson called the whole *G. Isora*.

420. *HELICTERES* Raf. calix tubul. tereto bilabiato 2-3fido, petalis 5 equalis, stam. 10 tubo 5fido extus inserta, podog. filif. incurvo, stylo 5fido, stig. 5, caps. 5coalitis contortis spiralis univalvis polyspermis—Types several trees of tropics, *H. baruensis*, *angustifolia*, &c.

421. *ANISORA* Raf. (not equal) diff. cal. clavato bilabiato, petalis 5 ineq.—Two types blended in *Helict. isora*.

422. *Anisora murri* Raf. fol. toment. cordatis serratis, multifi.—Malabar, figured in Rheed 6 t. 30.

423. *Anisora angulata* Raf. arborea toment. fol. cord. ineq. dentato angulatis—India, the var. c. figured in Plukenet t. 245.

424. *NISORALIS* Raf. diff. cal. campanul. 5dent. obliquatus, petalis 5 ineq. caps. coalitis in fructo tereto acuminato vix contortis.

425. *Nisoralis jamaicensis* R. *Helict. do* W. Lam. ramis glabris, fol. ellipt. subcord. serratis, pedunc. unifl.—Jamaica, made a var. of *Helict. isora*! by L. and others.

426. *OZOXETA* Raf. (bristles branched) diff. Helict. calix ætatis ramosis vestito, stam. 5, caps. tomentosis—Type *O. ovata* Raf. *H. pentandra* L. auct. Is the hexandrous *H. prunifolia* a subgenus?

427. *CAMAION* Raf. (n. ind.) diff. Helict. cal. tubul. elongato incurvo, caps. 5 stellatis non contortis. 2 types both Helict. of Loureiro.

428. *Camaion hirsuta* Raf. fol. ovat. subcord. serrat. acum. ped. multifl. Anam.

429. *Camaion undulata* Raf. fol. lanceol. undul. fl. agregatis. Anam.

430. *ALICTERES* Neck. diff. cal. obl. campanul. 5fido, petalis longe unguic. fimbriat. stam. plura ad tubo 5fido inserta, caps. rectis angul. intus dehiscens.—Type *A. fetida* Raf. *Helic. carthaginensis* L. auct.

431. *ICOSINIA* Raf. (20 united) diff. 420, cal. 5fidus, stam. 20 monadelphis, capsulis 5 radiatis rectis bivalvis.

432. *Icosinia paniculata* R. Hel. do Lour. Sm.—fol. ovatis acutis, fl. panicul. laxis rubris—large tree of Anam.

433. *FOMETICA* Raf. cal. tereto 4fido, cor. 0, antheris 4 bilab. sessilis epigynis, ovar. ovat. 4sulc. disco magn. insidens, stylis 4 brevis coadunatis, stig. obt. 4lob. caps. 4 stipitatis orbicul. gibbosis monosp. *Arbor polyg. fl. masc. anth. 4 coadunatis supra podogyno centralis, fol. sparsis, fl. panic*—fine G. united to *Heritiera*, but quite different: compare to *MEBORIDES*.

434. *Fometica punctata* Raf. *Heritiera fomes* Buch. tab—ramis teretis punctatis, fol. petiol. obl. lanceol. obt. integris reticul. panic. axil. fol. brevior—Tree of Ava, with small flowers incarnate, wood excellent for fuel and smitheries.

435. *GNOTERIS* Raf. (n. gr.) *Mesospherum* Brown, diff. *Ballota*, cal. 10striatus teres truncato 5arist. Galea ovata fornicata carinata, brevis, labio 4fido, 2 later. erectis magnis, 2 inf. deflexa, stigma simplex obtusum. sem. 2 ovata. *Frutescens, spicis foliosis*. Several types all fragrant of American bushes, and perhaps *Bal. disticha* of India also fragrant is a subgenus of it by calix mutic *NOTERIAS* Raf. *Mesospherum* has no true meaning, *Gnoteris* was a name of Dioscorides. Lheritier wrongly united it to his *Bystropogon*.

436. *Gnoteris cordata* Raf. *Bal. suaveolens* L. fol. longe petiol. cord. undulatis, serrato sinuatis rugosis axillis 4-6floris—South America.

437. *Gnoteris villosa* Raf. *Bal. suaveolens* Sw. obs. 225, fol. petiol. ellipt. subrotundis obt. crenatis villosis, axillis 3-5floris—Jamaica. Antilles, flowers blue.

438. *NOSTELIS* Raf. (n. gr.) diff. *Satureia*, cal. 5gonus 10striat. 5fidus. galea bifida, labio trifido, lac. media concava inflexa, stig. simplex acut. sem. 4. *Frutescens, fl. axil. bibracteatis*—several types of Amer. Shrubs, quite different from *Satureia*, as much so as my *G. Piloblephis* 604 New Flora. No *Satureia* grows in America.

439. *Nostelis viminea* Raf. *Sat. do L. auct.* *Frutescens*, fol. ovatis lanceol. integris, subtus toment. nervosis, supra scabriusculis, fl. gemin. pedic. fol. eq.—Antilles, flowers white in all and autumnal.

440. *Nostelis minor* Raf. *Satur. viminea* Sw. obs. *Frutescens* ramis rigidis ferugineis, fol. obl. cuneatis glabris, fl. ternis subsessilib—Jamaica on high Mts. 2 or 3 feet high.

441. *Nostelis arborea* Raf. *Sat. vim. var.*

Sw. arborea, ramis laxis, fol. obovatis glabris, fl. ternis—also in Jamaica, deemed a var. by Swartz, although a small tree 12 to 15 feet high.

442. *ERIPHIA* Brown, diff. *Besleria* 391, cal. 5part. basi ventricosus coloratus liquor limpidus exudens, corolla ringens, tubo medio gibboso, lab. sup. incurv. 2part. inf. 3part. ineq. Anthera 4 aglutinata, fil. 5to rudimento, stig. bifidum. bacca uniloc. sem. fundo inserta. *fl. axil. confertis*.—A very distinct G. to be added to my *BESLERIDES*, Swartz thought that the *B. cristata*, my *Lophalix* 394. was a *Columnea*? two types.

443. *Eriphia pallida* Raf. *Besl. lutea* Swartz &c—fol. petiolatis ovatis acumin. serratis,—Jamaica &c, shrub of 3 to 4 feet, fl. pale or ochroleucous.

444. *Eriphia lutea* Raf. *Besl. do L. auct.*—Arborea, ramis articul. fol. subsess. lanceol. serratis nervosis,—South America, Guyana &c, small tree 6 to 10 feet high, flowers yellow.

445. *LEUCOXYLON* Raf. diff. *Bignonia*, cal. bilab. sup. rotund. integr. inf. bifido, corolla infundib. bilab. 2-3lobis undulatis, stig. dilat. integrum, siliqua, teres. *Arbor. fol. digit. fl. termin.*—The G. *Bignonia* was another medley a family rather than G. *Tecoma*, *Gelsemium* and *Catalpia* have been divided, I have proposed *Cupulissa* 203, *Uloma* 222 in my *Flora Teluriana*, and I must establish several others, besides the akin G. *Spathodea*, *Jacaranda*, *Amphilophium* &c. This has 4 types, 2Sp. blended in *B. leucoxyton*, but perhaps most of the digitate Sp. belong to it. *B. serratifolia* has also the calix bilabiate.

446. *Leucoxyton riparia* Raf. fol. 5-8natis, lato lanceol. acutis fl. solitaris—fine tree of Ja-

maica on streams, flowers rosate, the *B. leucoxylon* of Swartz and others.

447. *Leucoxylon acuminata* Raf. Bign. leuc. L. auct.—fol. 5-6natis ovatis acumin. fl. corymbosis—South America.

448. *PLATOLARIA* Raf. diff. Bign . . . Siliqua maxima orbiculata plana. *Scandens*, fol. digit. fl. racemosis—Very distinct by mere fruit said to be akin to that of Bign. cerulea, see 458. The flowers not described.

449. *Platolaria flavescens* Raf. Bign. orbiculata Jaq. auct.—fol. 5natis ovatis acum. cirrhosis, racemis axil. sub 10fl.—Carthagera, fl. yellowish.

450. *POTAMOXYLON* Raf. diff. Bign. cor. 4loba, ineq. lobo sup. major, capsula incurva ventricosa. *Arbor* fol. digit. fl. corymbosis—another very distinct G. with digitate leaves.

451. *Potamoxyton alba* Raf. Bign. fluvialis Aubl. t. 267. auct—fol. 5natis petiol. ovatoobl. acutis—small tree of Guyana growing in streams fl. white.

452. *HIPPOXYLON* Raf. (horse wood) diff. Bign. cal. tubul. 5dent. cor. hypocrat. 5loba, stam. 5, fertiles 2, steriles 3, siliqua uniloc. sem. villosis. *Arbor* fol. bipinnatis—G. quite distinct.

453. *Hippox. indica* Raf. Bign. do auct. B. pentandra Lour. foliolis subrot. ovatis cord. acum—very large tree of India, Anam, Molucas, perhaps 2 or 3 sp. blended, the lignum equinum of Rumph 3, t. 46 is one, the Palega of Rheed 1 t. 43 and 6 t. 45 also.

454. *PONGELIA* Raf. diff. Bign. cal. tubul. spathaceo latere dehiscens, cor. hypocrat. limbo plano 5plicato repando ineq. dent. stam. 4 didyn. siliq. linear. plana subtorul. sem. alata. *Arbor*,

fol. imp. pinnat. fl. axil—akin to *Spathodes* by same calix, mixt with last by many, perhaps *Spath. indica* of some, but not all, the real *Spathodes* are African, real type.

455. *Pongelia longiflora* Raf. Bign. et *Spathodes* do auct. foliolis ovatis hirtis—fine tree, useful wood of Java, Ceylon, Molucas &c.

456. *HIERANTHES* Raf. (holy flowers) diff. Bign, cor. tubul. 5fida, faux villosa, lobis ineq. 2 superis bifidis, 3 inf. reflexis crispis, stam. 5, fil. 1 sterile, siliqua linear. plana incurva. *Arbor, fol. imp. pinn. fl. paniculatis*—very distinct Genus, see 662.

457. *Hieranthes fragrans* Raf. Bign. che-lonoides L. auct.—foliolis ovatis acum. pubesc—large tree of East Indies, flowers red, fragrant, used in worship.

458. *RAFINESQUIA* (vel *Etorloba*) diff. Bign. cor. tubulosa incurva apice inflata, limbus 4lobo, lobis ineq. supero et infero major emarg. stigma capit. siliqua obcordata plana lignosa, sem. alatis. *Arbor, fol. imp. bipinnatis, fl. paniculatis*—another beautiful G. that I dedicate to myself if the *Rafinesquia* of New Flora 600 is not deemed good enough, and I add a second name meaning *heart pod*, if any one cavils at this again.

459. *Rafinesquia* (vel *Etorloba*) *cerulea* R. *Bignonia* do L. auct. Catesby 1 t. 42—fol. multijugis, foliolis petiol. oblongis acutis, paniculis terminalib. dichotomis laxis—a small tree of the Islands of Bahama and Florida, with small leaves, but handsome flowers pale blue similar to *Pentostemon* in appearance, fruits brown smooth large emarginate, seen alive.

460. *ENDOLOMA* Raf. diff. Bign. cal. hypocrat. limbo duplex, ext. 5fido plano, interno

SYLVA TELLUR.

erecto integro angusto *Frutex scandens*
2-3foliolatis, fl. racemosis—singular calix, we
 lack the exact account of corolla and fruit.

461. *Endoloma purpurea* Raf. Bign. panicul. Jaq. L. &c—fol. diphyllis cirrhosis, nonulis triphyllis sine cirrhis, foliolis ovato cord. racemis paniculatis—South America.

462. *PROTERPIA* Raf. (nymph) diff. Bign. cal. 4lobus, cor. tubulosa, limbo 4fidus ineq. reflexo . . . *Arbor fol. alt. simpl. fl. corymbosis*—very distinct by habit, almost all the Bignonias having opposite leaves. How is the fruit?

463. *Proterpia obtusifolia* R. Bign. do W. P.—fol. ovatobl. obt. integris, corymbis term—Brazil.

464. *ODISCA* Raf. (dent. disk) diff. Bign. cal. camp. angul. 5dent. cor. tubo apice inflato, limbus 5lobo subeq. undul. stam. 4 basi villosis, discus urceolatus 5dent. ovario cingens, stylo curvo, stig. 2lamellato siliq. obl. verrucosa. *Scandens, fol. ternis pinnatis, fl. sparsis*.

465. *Odisca rosea* Raf. Bign. colei bot. mag. 2817. foliolis 5 ellipt. fl. sparsis subternis roseis—Mauritius.

Although I have now thus ascertained 17 Genera out of Bignonia, many others must be verified, the sp. with echinate fruit *Bign echinata, microphyla* &c may form a subgenus LOBONIS. See 660 to 663 for Sererea and Nevrilis.

466. *DENDROSICUS* Raf. (gourd tree) diff. Crescentia, cal. tubul. bifidus, cor. ventricosa bilab. sup. crenat. undul. lab. inf. brevis 3fidus, antheris coherens, stig. 2lamel. baca corticosa fragilis. *Arbor, fol. distinctis sparsis, fl. term.*
 Family of BESLERIDES.

467. *Dendrosicus saxatilis* Raf. Cresc. cucurbit. L. auct.—fol. ovat. coriaccis glabris pe-

tiol. fl. 2-5 pedic. fruct. ovat. acum.—Antilles, Tree with streight angular branches, fruits size of a Citron, wood white and hard.

468. *Crescentia* L. auct. This G. differs by calix bipartite cor. incurva, limbo 5fido ineq. bacca cortex dura, *fol. confertis*, *fl. lateralis*—many Sp. are blended in *Cr. cujete*, whereof I shall distinguish 3 at least. All from Antilles and South America.

469. *Crescentia arborea* Raf. fol. cuneatis subeq. fruct. globoso maximo—very useful tree, branches divergent, fruits often as large as head, medical.

470. *Crescentia pumila* Raf. humilis, fol. obovatis inequalib. fruct. subovato oviformis—small shrub, fruit size of hen-eggs.

471. *Crescentia latifolia* Raf. fol. subrot. fruct. ovatis—perhaps a *Dendrosicus*?

472. LANTANA L. this appeared a natural genus, but the hooked stigma was its main artificial character and it has many anomalies in flowers and habit, forming at least subgenera.

473. Subg. CAMARA Raf. cal. ineq. 3dent. cor. infund. limb. 4lobo subeq. inf. emarg. *Frut. fol. oppos. fl. subcap. bracteatis*. Most of the species.

474. Subg. PERIANA Raf. cal. 4dent. cor. hypocr. 4lobo, *Frut. fol. opp. fl. capit. involu-cratis*—here belong *L. ochreata*, *involucrata*, *aculeata* and others.

475. Subg. TRILEPTA Raf. cal. 3dent. ineq. cor. hypocr. limbo obliquo 4lobo. *Frut. fol. vertic. fl. spicatis bracteatis*—Type *L. trifolia*.

476. Subg. ERPILA Raf. cal. 4dent. cor. infund. sub5lobo, *Frut. repens, ramis annuis fl. subspic. bracteatis*---Type *L. annua*.

477. BATINDUM Raf. diff. Lantana, cal. 5part.

subul. persist. cor. hypocr, 5loba. *fol. alt. fl. axil.*---Quite different habit, but fruit exactly as in *Lantana*. •

478. *Batindum jasmineum* Raf. Lant. africana L. auct---ramis scabris, fol. ovat. acum. serrat. hirsutis rigidis---African Shrub 6 feet high, fl. large white odorous similar to *Jessamine*, drupes black. This plant is omitted in *Wildenow &c*, and I dont find where removed. Is *Charachera* Forsk a 2d Sp? or a peculiar G. to be called *Xeralis* Raf?

479. *Lantana* (Camara) *antillana* Raf. L. camara L. Sw. auct. ramis 4gonis sulcatis hirsutis, fol. longe petiol. ovat. acum. serratis hirsutis. fl. cap. umbel. ped. ang. bract. ovat. lanceol. concavis---Shrub of Antilles seen alive and compared with the next, character made comparative.

480. *Lantana* (Camara) *floridana* Raf. atl. J. p. 148. Ramis 4gonis scabris, fol. brevi petiol. ovato lanceol. rugosis scabris crenato serratis, capitulis congestis, pedic. clavatis, bract. lanc. planis---Florida, discovered by Bartram, mistaken by him and American Botanists for the last, seen alive in Bartram's garden, flowers versicolor, yellow, orange, red, crimson on same shrub, berries globular blue small.

481. *Lantana* (Erpila) *undulata* Raf. Lant. annua fl. lud. 111---repens, caulib. 4gonis hirsutis, fol. ovat. acum. dentatis undulatis subsinuatis, nervis puberis, umbellis deinde spicatis, calix striato hirsuto---in Louisiana, doubtfully referred once by me to *L. annua* which differs by leaves often ternate cordate rough. Both as well as next appear to be creeping shrubs, sending annual shoots.

482. *Lantana* (Erpila) *reticulata* Raf. re-

pens, caulib. humilis vix angul. pilosis, fol. ovato-blongis, utrinque acutis, crenatis, basi integris glabriusculis subtus glaucis reticulatis, spicis pedunculat. umbellatis, bract. oblongis obtusiuculis ---from Florida, found by Baldwin, anonymous in Collins herbarium, small plant, stems annual herbaceous, leaves small often less than one inch long, sometimes quite oblong, flowers few quite sessile.

483. *Lantana* (Camara) *rosea* Raf. ramis inermis vix angul. albescens hirsutis, fol. ovatis vel subrot, utrinque acutis scabris, lato dentato serratis, subtus glaucis, fl. capitatis, bracteis ovatis brevis---sent me from the Antilles under that name, which I do not find recorded, leaves small uncial, flowers rosate.

484. *Lantana* (Periana) *incarnata* Raf. ramis angul. fuscatis glabris aculeatis sparsis brevissimis recurvis, fol. ovatobl. utrinque acum. crenulatis scabris, capitulis axil. pedunc. involucris, bracteisque lin. lanceol.---apparently different from *L. nivea* and *aculeata* or its varieties, flowers incarnate, leaves large 2 or 3 inches, seen alive from Antilles.

485. *GLYCANTHES* Raf. (sweet fl.) diff. *Columnea*, cal. 5part. cor. incurva gibba, bilab. galea. 3part. medio major emarg. lab. inf. lanceol. integro, anthera 4 connexa quadrata, stig. bifidus, caps. baccata uniloc. sem. centralis. *Frutex scandens, fl. axil. fol. opp.*

486. *Glycanthes scandens* R. Col. do L. ceule angul. carnosus, fol. ovatis, pet. acutis---Antilles, Guyana, perhaps several blended sp. called *Syrup Vine*, corolla red full of sweet juice, berries white. Of family *BESLERIDES*.

487. *COLUMNEA* L. the type is *C. longifolia*, wrongly called *Achimenes sesamoides* by Vahl,

diff. cor. galea integra, labio trifido, caps. 2locul. sem, centralis. *C. orata* appears a second sp. *C. hispida* has a baccate berry as in *Glycanthes*. *C. hirsuta* and *rutilans* must be verified. *C. stellata* forms next G.

488. *APONOA* Raf. (bot.) diff. *Glycanthes*, cal. stellato, cor. lab. inf. bifido, caps. subul. bilocularis. *Herba fol ternis*.---Type *Aponoa repens* Raf. *Columna stellata* Lour. auct.---*Repens*, fol. ovatis, fl. solit.---Perennial, in waters of Anam.

489. *PIPER* L. from 25 sp. in Linneus, this G. was increased to 105 in Persoon, and now about 150, offering great diversities of habit. *Peperomia* has been separated by some; but the whole G. requires complete revision, and as in *Ficus*, the flowers have been described in but few. I shall endeavor to indicate several Genera of it. They will be the types of family *PIPERIDES* wrongly united to *Urticoides*, to which belong also *Misandra*, *Gnetum*, *Thoa*, *Saururus* &c. Chiefly Trees, Shrubs and Vines, but some plants.

490. *PIPERIPHORUM* Neck. bracteis nullis, antheris sessilis 2, stylus unicus stig. 3. *fol. alternis*, *fl. spicatis*---most of the sp. belong to this.

491. *AMALAGO* Raf. bracteis nullis, antheris 2-4 sessilib. stylis 3---Types *Am. antillana* Raf. *P. amalago* L. and *Am. malamiri*? of East Indies, probably many others, *P. reticulatum*, medium, *asperum* &c.

492. *CUBEBA* Raf. diff. . . . caule articul. fl. racemosis---a subg. at least, flowers similar? type *C. officinalis* vel *P. cubeba*.

493. *LEPIANTHES* Raf. diff. *Lepigonis floralis* stam. 2 cum filam. stig. 3 sessilib. reflexis *fl. spicatis* vel *umbellatis*, *fol. sepe peltatis*---Type

Lep. vel P. umbellatum, peltatum, maculosum, granulatum and many others.

494. *Troxirum* Raf. diff. *Lepigonis floralis*, stam 2 filamentosa, stigma unicum obliq. villos. *fol. verticillatis*, *fl. spicatis*---all the sp. with whorled leaves from 3 to 5, Trox. or P. trifolium, quadrifolium, reflexum, verticillatum, stellatum, pulchellum, filiforme, pereskia, blandum.

495. *Gonistum* Raf. diff. 490 *Lepig. floralis*, stam. 4-6, ovar. 4-6 angul. stig. 4-6. drupis 4-6 gonis---Type G, unguiculatum Raf. Piper do R. P. t. 57, Peru.

496. *Oxodium* Raf. (2 warts) diff. 490 *spicis echinatis*, stam. 4, stylus unicum elong. stig. 2---Type O. *callosum* Raf. Piper do R. P. Peru.

497. *Lacistema* Sw. *Nematospermum* Richard, diff. 490, stam. 1, stig. 3 setacea, Akena monosp---no more different than the others, the berry is often dry in many.

498. *Lacistema myricoides* Sw. auct. Piper adgregatum Berg. Vitm. Arborea, fol. ovat. acum. spicis sessilib, agregatis---Tree of Guyana and Antilles,

499. *PEPEROMIA* R P. Pers. only differ 490, stig. sessile 1-2 punctiformis. 23 sp. in Persoon, perhaps including also anomalies.

500. *CARPUPICA* Raf. probably another distinct G. type *C. odorata* Raf. Piper carpupija R P. tree of Peru with fragrant leaves—Piper methysticum and Churumaya are also probably types of other Genera? to be called *Methysticum esculentum* Raf. and *Churumaya arborea* Raf. Is not Piper betel another? to be called *Betela mastica* Raf.

CENTURIA VI.

501. *Cissus* L. only 6 sp. in Linneus, now over 100 by uniting thereto a medley of plants with totally different habit and even flowers, leaves simple, ternate, digitate, pinnate &c indicating peculiar G. which I shall partly settle; but as the flowers of all are not described, they must be verified. My *Cissus* R. will have cal. 4dent. petalis 4 liberis, disco plano, stam. 4 liberis epidisco, stylo tereto, stig. obt. bacca globosa monosp. *Scandens, fol. simplicib. alt.*—such are most of the sp. probably.

502. *IRSIOLA* Brown, Raf. diff. calix planus 4gonus, pet. 4 reflexis epicalix. stam. 4 monadelphis urceol. 4part. antheris in sinub. ovar. 4gon. stylus, stig. acut. drupo monosp. umbilicato. *Frut. scand. fol. simpl. fl. umbel.*—Type *Irs. sicyoides* Raf. C. do L.

503. *KEMOXIS* Raf. (sour Ivy) diff. cal. urceol. obt. 4dent. persistens, pet. 4 refl. basi coalitis, disco marginatus. *Fol. trifolialis, fl. umbellatis*—Type *K. acida* R. Cis. do L.

504. *GONOLOMA* Raf. (ang. edge) diff. cal. plano marginans integro 4gono, pet. 4, stylo 4gono. *Fol. trifol. fl. umbel.*—Type *G. alata* Raf. *Cissus trifoliata* L. and probably several other trifoliate sp.

505. *ITUTERION* Raf. (n. gr. *Hedera*) diff. cal. urceol. 4fidus persistens, pet. 4 revolutis basi coalitis marcescens persistens. *Arbor fol. oppos. simpl. fl. panic.* Is it of same family?

506. *Ituterion arborea* R. *Cissus* do Forsk, auct.—fol. petiol. obl. crassis integris, fl. sessil—large tree of Arabia with very peculiar habit. berries pisiform yellow or black.

507. *SCÆLANTHUS* Forsk, united to *Cissus* by

Vahl. is yet a peculiar G. several sp. rotundif. 4gonus, &c.

508. *RINXOSTYLIS* Raf. (beak st) diff. bacca pyriformis stylo persistens rostrata. *fl. umbel.*—Types *R. repanda* Raf. Cissus do Vahl. auct.

509. *PEDASTIS* Raf. diff. 501, bacca 4locul. 4sperma. *fol. pedatis.*—Type *P. indica* Raf. Cissus pedata auct.

510. *CAUSONIA* Raf. med. fl. 1830 diff. 501. petalis 4 erectis cuculatis, disco 4lobo, stam 4 fertiles, 4 steriles lobis alt. *fol. subpinnatis*—Type *C. japonica* Raf. Vitis do Thunb. Cissus do W. P.

511. *QUINARIA* Raf. med. fl. 1830 Psedera Necker, diff. 501. cal. 4-5lobus, pet. 4-5 cuculatis erectis, stam. 4-5, disco plano, bacca 4-5loc. 4-5sperma. *fol. digit. fl. panic.*—Types nearly all the sp. with digitate leaves, particularly *Q. hederacea* Raf. or *Hedera*, *Vitis* and *Cissus* 5folia of Authors! also *Q. hirsuta* R. of North America often deemed a var. of it, and 3. *Q. japonica* R. the *Vitis pentaphyla* of Thunberg.

512. *NEKEMIAS* Raf. (not Ivy) diff. 501, cal. marginans, integro undulato, petalis 5 basi coalitis patens pubescens, stam. 5, disco membranoso undulato sub10lobus, stylo brevis, stig. obt. bacca 2locul. 2-4sperma. *Scandens fol. bipinn. fl. corymbosis*—very peculiar G. wrongly united to 4 others. Several pinnate leaved Cissus may belong to it, but the type is

513. *Nekemias bipinnata* Raf. Ampelopsis do Mx! Cissus do Elliot, *Vitis arborea* L! *Hedera* do Walt! Cissus stans Pers. Pursh—ramis viminalis subang. fol. bipinn. decomp. foliolis ovato lanceol. dentatis iucisis lobatis, corymbis dichotomis—Carolina to Louisiana, seen alive like the last and next.

514. *AMPELOPSIS* Mx. This G. must be restricted to *A. cordifolia*, having really the appearance of a Grape Vine, and only differing by petals not hooded nor coherent, disk cup like lobed persistent.

515. *ALLOSAMPELA* Raf. med fl. 1830. cal. 5dent. superus, pet. 5 ovatis conc. acum. stam. monadelphis 5, disco urceol. truncato persistens, bacca uniloc. 2-4sp. cal. et disco coronata. *Hab. Vitis*—Not even of family *SARMENTACEA*; but of *HEDERACEA* that differs by ovary inferior and stamens alternate, akin to *Araliacea* differing by several styles.

516. *Allosampela heterophylla* Raf. *Vitis* do Thunb. auct. fol. simpl. inciso serratis lobatisque nudis, paniculis axil—Vine of Japan.

517. *PIOCTONON* R. (n. gr.) diff. ad *Heliotropium*, cal. 5fidus, cor. hypocr. limbo plano 5gono, faux clausa sq. 5 angulis oppos. stig. capit. capsula subrot. disperma vel akenis 2 globosis coalitis—*Frutic. fl. spicatis*—The G. *Heliotropium* is yet one of the most anomalous of *Borragines*, although once deemed a very natural Genus, many G. must be separated from it. This has 3 types at least.

518. *Pioctonon antillanum* Raf. Hel. fruticosum L. *Tournefortia humilis* L—fol. alt. lin. lanc. hirsuta, marg. revol. subt. incanis, spicis nudis solit. fl. secundis—Antilles, shrub 2 feet high, fl. white.

519. *Pioctonon persicum* Raf. Hel. do Vitm. H. frutic, var. Pers. Burm. t. 19—fol. alt. lin. lanc. villosis recurvis, spicis term. foliosis—Persia.

520. *Pioctonon ternatum* R. Hel. do Vahl &c. fol. alt. ternisque lanceol, subt. incanis, spicis conjugatis—Antilles.

521. *DIALION* R. (n. gr.) diff. Heliotrop. cor. villosis, tubo conico, limbus plicis dentif. inter lac. sem. 4 villosa, *fl. spicatis*.

522. *Dialion undulatum* Raf. Heliotr. do Vahl &c. Lithosp. hispidum Forsk—Dichotome shrub of Egypt.

523. *SCORPIANTHES* Raf. diff. Heliotr. cor. infundib. faux pervia, dentis inter lobis, sem. villosa, *fl. spic.*

425. *Scorpianthes lineatum* Raf. Hel. do Vahl &c. Lithosp. heliotropoides Forsk—dichotome shrub of Arabia.

525. *PERISTIMA* Raf. (around stig.) diff. Heliotr. cor. faux nuda, limbo plano, stylus medio incrassato, annulo lato circumdatus sub stigma quod bifidus est, sem. baccatis coalitis inter bacca 4ang. 4sp.—hardly of same family, very near Ehretia.

526. *Peristima bicolor* Raf. Heliotr. baccatum Forsk. Vitm. caule frutescens prostrato, fol. obl. hispidis—Arabia, small low shrub, flowers tube yellow, limb white.

527. Besides these frutescent N. G. there are others herbaceous included in Heliotropium, whereof *Tiaridium* of *Lehman* is one including many sp. blended in *Hel. indicum* or akin thereto, with fruit bifid formed of 2 coalescent seeds, our American sp. is quite distinct even in Genus! see 531.

528. *SYNZISTACHIUM* Raf. diff. Heliotr. cor. tubo clavato longissimo, limbus 5fidus, fruct. 2partibilis 2sp.—akin to Messersmidia, type *S. peruvianum* R. Hel. synzist. R. P. auct.—*H. microstachium* has the same fruit, but how is corolla? several other Peruvian sp. have very peculiar habit by flowers corymbose and will probably form other Genera. The *H. pinnatum*

is so different from all that it must also be a peculiar Genus. The *Schobera* of Scopoli and Necker was separated also from *Heliotropium* by capsule didyme umbilicate 4loc. 4sp. but I dont know which is the type, unless some *Tiaridium* or the next G.

529. *ELIOPIA* Raf. (n. gr.) diff. *Heliotr.* cal. tubul. 5dent. cor. hypocr. faux clausa 5radiata, stig. capit. planum, sem. 4 eq. ovatis—This although based on the *H. indicum*, is very different from *Tiaridium* by calix and seeds, 2 types.

530. *Eliopia serrata* Raf. fol. ovatis subcord. subserratis rugosis hirtis, spicis term. solit. fl. secundis biserialis—Antilles and tropical America, the *Heliotr. indicum* of Swartz &c, *H. americ.* of Sabati &c, fl. pale blue.

531. *Eliopia riparia* Raf. fol. ovatis subrepandis rugosis hirtis, spicis term. solit. fl. secundis uniserialis—banks of streams in N. Amer. the *Heliotr. indicum* of all the N. Amer. botanists. Elliot calls the calix 5parted and 4 seeds angular.

532. *RHIZAERIS* R. (air root) [diff. *Conocarpus*, cal. conc. 5dent. petalis 5, stam. 10, alt. 5 brevior. ovar. cord. 10striatum, akenis coronatis obov. sulc. indehisc. apteris. fl. racemosis. bracteatis—very diff. from *Conocarpus* with capitate naked fl. cal. 5parted, no petals, 5fertile stam. 5 sterile, nuts in cones winged &c. The name derives from the seeds germinating in the air as in *Rhizophora*.

533. *Rhizaeris alba* Raf. *Conoc. racemosa* L. auct. The white Mangrove of Antilles.

534. *ZAMZELA* R. (bot) diff. ad *Hirtella*, stam. 3 (nec 5)—types *Z. racemosa* Raf. *Hirt. triandra* auct, and 2 *Z. rugosa* R. *Hirt. do* auct.

535. *SPIHENISTA* R. (wedged) diff. *Hirtella* fruct drupa (nec bacca) cuneat. incurvat. stylo,

basi germ. nec ad latere—Type *Sph. peruviana* Raf. Hirt. do Pers. H. racemosa R. P. Cosmibuena R P, bad name.

536. *THEVETIA* Ad. Scop. Neck. diff. ad *Cerbera* cal. 5phyl. cor. clavata infund. nect. 5dent. stellato. stig. capit. 5gon. emarg. drupa, nux 2loc.—Types *Th. linearis* Raf. *Cerb. thevetia* L. auct. 2 *Th. ahuai*. and probably some others.

537. *PHYLLANTHUS* L. from 7 linnean sp. increased to over 60 by a strange medley, even *Xylophyla*, *Kirganelia* and *Conamia* being thrown into it; whereby it is become as absurd as *Croton*! and more difficult to rectify by the few good descriptions of flowers. However I had long ago attempted it and shall now give a sketch of my labor, which must be deemed very imperfect. See till 552, mostly shrubs.

538. *PHYLLANTHUS* Raf. monoic. cal. 6part. pet. nullis, stam. 3 monadelphis, fl. fem. stylis 3, bifidis caps. 3cocca, *fol. floriferis*—most of the species.

539. *EMBLICA* Gaertn. Raf. diff. antheris 3 coalitis ad apex filam. unicum, fruct. baccatus, *fol. pinnatis*—Types 1 *Embl. arborea* Raf. Ph. emblica L. 2 *E. annua* R. Ph. bacciformis L. 3 *E. racemosa* R. and probably some others.

540. *NIRURIS* Raf. diff. cal. 6fido vel 6dent. caps. 6locularis.—Several sp. blended in *Ph. niruri*, some even of different Genera! such as *Kirganelia* and *Mæroris*. Type

541. *Niruris indica* Raf. fruticul. pinnulis petiol. fl. axil. solit. pedunc.—India, a 2d sp. is *N. annua*.

542. *MÆRORIS* Raf. diff. cal. 5phyl. glandulis 5 ad basis, caps. 3loc. 6valv.

543. *Mæroris stipulata* Raf. Phyll. niruri, Swartz. Herbacca, foliolis obl. glaucis subsess.

stipulis 2 geminatis coloratis, fl. axil. ped. nutantib.—Mts. of Jamaica.

544. *NELICA* Raf. (n. ind.) diff. cal. 5dent. petalis 5, stam. 5 monadelphis—Type *N. maderaspatana* R. Phyl. do L.

545. *XVLOPHYLA* auct. diff. stylis 2, caps. 2spermis, *fol. simpl. margine floriferis*—most of the sp. but all must be verified.

546. *LOMANTHES* Raf. (marg. fl.) diff. stam. 6 liberis, stylus 3part. stig. 3, caps 3loc. 6valv. 6sp. *fl. marginalis polyg.*—Type *L. latifolia* Raf. Phyl. and Xyloph. do auct. Genesiphyla of Lher.

547. *HEXADENA* Raf. diff. stam. 3 liberis, glandulis 6 ad basis, stylo 3fido, stig. 6. caps. 3loc. 6valv. 6sp. *fl. marginalis polygamis*—Type *H. angustif.* R. Phyl. and Xyloph. do auct.

548. *KIRGANELIA* JUSS. very good G. wrongly made a subg. by Persoon, type *K. virginea*, blended in *Ph. niruri* by L.

546. *GENESIPHYLA* Lher. diff. 547. stam. 3 monadelphis, glandulis 6, cal. fem. 3gono 3d, stig. 9—Type *G. apesciosa* Raf. Phyl. do Sw. P.

550. *CONAMIA* Aubl. Raf. diff. 538, ovar. 6striat. stylis 3, stig. 6 villosis, caps. 6locul. 6sp. *fol. simpl. fl. axil.*

551. *Conamia brasiliensis* Aubl. R. fol. subrot. acut. ineq. integr. fl. agregatis—Guyana & Brazil, shrub 6 feet high, fl. greenish.

552. *SYNEXEMIA* Raf. 1825. *Mascalanthus* Nuttall 1834. See my Neog. 10, Flora Tellur. 1191, New Flora 995—diff. 538, stam. 6 apice liberis, caps. 6valv. 6sp. *fol. distichis fl. axil. gemin*—Types *S. obovata* R. Phyl. do and carolinianus, 2 *S. cuneifolia* Raf. n. fl. 995, and other small annual plants of N. America.

553. *BELLUCIA* Neck. 833. cal. superus sim-

plex 3-5fidus coriaceus, petalis 7-9 epicalix unguic, fimbriata, stam. 12-18, filam. conniv. antheris liberis, stylo incurvo clavato, bacca pluriloc. polysp.—very different from *Blakea* with double calix, outer inferior, both 6fid, 6pet. 12 stam. anthers coalescent, caps. 6loc. &c. Both of *MELASTOMIDES* family.

554. *Bellucia nervosa* Raf. *Blakea triplinervia* L. auct. 5nervia Aubl. a tree of Guyana 18 feet high.

555. *MELASTOMA* L. this beautiful G. has been increased from 15 linnean sp. to 114 in Persoon, and now over 150, Kunth alone has 34 of S. America. As usual in such large groups a medley of G. has been blended, requiring revision. —'They are chiefly shrubs and plants seldom trees, which I divide in 38 good Genera types of family *MELASTOMIDES*, except those with free ovary that are like *Rhexia* of family *LYTHRIDIA* subfamily *Rhexides*.

556. *MELASTOMA* Raf. cal. camp. 5dent. pet. 5, stam, 10, stig. obt. vel capit. bacca coronata 5loc. polysp. &c. Subg. may be formed by the shapes of stigma, anthers &c. Most of the sp, belong here, such as *M. aspera*, *strigosa*, *repens*, *trinervis*, *parviflora*, *agrestis*, *grossa*, *granularis*, *nervosa*, *ciliata*, *cymosa*, *rigida* Sm. *cuprea* Sm. and many others.

557. *DANCERA* Raf. (bot) diff. 556, cal. 5-6fidus, pilis sanguineis hirtis, lac. ovatis, postice aucta lac. linearib. stylo crasso, stig. concav. pet. 5-6, stam. 10-12, antheris bifidis. *Frutex*, *fol. 5nerv. fl. axil.*—Type *D. hirta* Raf. M. do L. Sw. auct. but many blended sp. under that name of other genera?

558. *SERICOLA* Raf. diff. 556, cal. obl. tubul.

5fid. antheris longissimis falcatis, ovar. obl. stylo longus curvus, stig. clavatus. *Frutex, fl. racem.*—Type *S. brachiata* Raf. Mel. holosericea L. auct. Brazil shrub, *M. amygdalina*, Lam. with terete calix is perhaps a 2d sp.

559. *Ziegera* Raf. (bot) diff. 556. cal. brevis dentes 5 obt. petalis 5 infra dentes, stam. 10, filam. genicul. antheris erectis apice perforatis, stig. truncat. concav. *Frutex, fl. racem. panic.*—Type *Z. levigata* Raf. Mel. do L. auct. antillian Shrub.

560 ACINODENDRON L. 1st. ed. since blended in *Melastoma*, but diff. by calix turbinate, arborescent and probably other characters in anthers and stigma. Probably several blended sp. and types, at least three, and some other trees may belong here.

561. *Acinod. aurea* Raf. (Sp. of Smith) fol. ovatis acum. serratis 5nervis aureo-hirtis, panic. term. trichotomis, ped. 2-3fl. fl. sessilib. bracteat. —tree of Guyana.

562. *Acinod. laxiflora* Raf. fol. lato ellipt. denticul. 5nerv. subt. canis racemis axil. laxis—S. Amer. tree 20 feet high flowers white, the genuine linnean sp.

563. *Acinod. cymosa* Raf. *M. acinod.* W. P. fol. ovatis acum. dentic. 5nervis, fl. axil. cymosis.—Antilles.

564. OXISMA Raf. (split claw) diff. 556, petalis basi fissis ut 2 unguic. vel pet. 10, per paria apice coalitis, bacca umbilic. *Arbor. fl. corymb*—Types *Ox. arborescens* Raf. Melast. do Aubl. large tree of Guyana 60 feet high. fl. white and 2 *Ox. flavescens* (M. aubl.) another tree 10 feet high.

565. ACINOLIS R. (scaly berry) diff. 556, cal. turbinato 5-6angul. dentato, 10-12 costato, extus

squamosus, pet. 5-6 parvis, stam. 10-12. bacca squamosa. *Frutex, fl. panic.* Type.

566. *Acinolis elliptica* Raf. Melast. squamulosa Sm. fol. ellipt. obt. integris 3nervis subtus canis—Shrub of New Grenada disc. by Mutis. Perhaps *M. staminea* Lam. is a 2d sp.

567. *Auliphas* Raf. (sulc. cup) diff. 556, cal. cupularis hemispherico sulcato 5dent. stig. concavo cupularis. *Frutex, fl. panic.*

568. *Auliphas ligustrina* Raf. Melast. do Sm. fol. ovatis obt. integris—another shrub of Bogota.

569. *SYNODON* Raf. diff. 556, cal. 5-6dent. coalitis calyptrans sepe deciduis vel latere fisso, pet. 5-6. stam. 10-12. ovar. annulo coronata—Types *S. calyptrata* and *montana* Raf. Melast. do auct.

570. *EUSTEGIA* Raf. diff. 569. cal. indiviso integro calyptrato deciduo, pet. 5-6, stam. polyanthesis, bacca non coronata, concreta, 5-6locul—G. near to last, also to *Eucalyptus* and *Calyptranthes*, probably of MYRTIDES family by many stamens like them. Also akin to *Thylacium* of Loureiro but with free berry, 3 types.

571. *Eustegia mutisi* Raf. Melast. do Kunth. Arborea, fol. cordatis hirtis—tree of Andes.

572. *Eustegia pulverulenta* Raf. Melast. extinctoria Kunth. Arborea, fol. ovatoobl. acum. pulverulentis—tree of Bogota.

573. *Eustegia tomentosa* Raf. Melast. jalapense Kunth. Fruticosa, fol. lanceol. subtus tomentosis—Shrub of Mexico.

574. *OCTONUM* Raf. diff. 556. cal. 8dent. petalis 8, stam. 16—Type *Oct. humboldi* Raf. Melast. octonum Kunth.

575. *ANTHERYTA* Raf. (anth, rug) diff. 556,

cal. 5fidus, pet. 5, stam. 10 ineq. declinatis, filam. supra lanatis, antheris linearib. flexuosis rugosis. *Frutex* *fi. panic.*

576. *Antheryta granulosa* Raf. Melast. do Lam. Pers. b. reg. 671, b. mag. 2431. *Rhexia fontainesia* H. B. t. 36, ramis 4gonis alatis, fol. ovat. lanceol. integris 5nervis, supra granulosis, panic. termin—Shrub of Brazil, fl. purple.

577. *ARTHROSTEMA* Grah. diff. 556, cal. 4dent. pet. 8. retusis, stam. 8 ineq. antheris porosis bi-auricul. caps. 4locul—by capsule nearer to *Rhexia*? is it free?

578. *Arthrostema nitida* Gr. b. mag. 3142. frutic. pilosa fol. ovat. 5nervis serrul.—Shrub of Buenos Ayres.

579. *ALOSEMIS* Raf. (half diff.) diff. 556, cal. 4-5dent. pet. 4-5, stam 8-10, ineq. alternis brevior sepe sterilis vel castratis—3 Types 1 *Al. zeylanica* Raf. Melast. octandra L. auct. 2 *Al. grandiflora*, Melast. do auct. and next.

580. *Aloseris villosa* Raf. Melast. do Lod. 853 (non Aublet) b. mag. 2630—Frutic. fol. ovatis villosis integris 5nervis, fl. term. 1-4.—South America.

581. *GONEMA* Raf. (gen. fil) diff. 556. cal. urceolatus 4fidus, pet. 4 parvis acutis, stam. 8 filam. genicul. antheris linearis acutis, styl. crasso stig. obt. *Frutex*, *fl. axil.*—Types *G. scabrosa* Raf. Melast. do L. auct. 2 *G. divaricata*, W. P.

582. *LOMANTHERA* Raf. diff. 556, cal. 4d. pet. 4 unguic. stam. 8, antheris utrinque latere membrana marginatis, stylus elong. bacca 4loc.—Type *L. glandulosa* Raf. Melast. do auct.

583. *OCTELLA* Raf. diff. 556, cal. 4d. pet. 4, stam. 8, filam. abbreviatis, antheris curvis, bacca 4loc.—Types, several octandrous sp. but must all be examined again, such are Melast. angus-

tif. microphyla, capillaris, umbrosa, coccinea, vaccinoides, fascicularis, hispida, axillaris, alpina, verticillata, lateriflora, virgata, glabrata, repens.

584. *ANTISOLA* Raf. diff. 583 *stam.* 4. *Frutex fl. racem.*—certainly a very striking G. the stamens being equalised to petals.

485. *Antisola racemosa* Raf. Mel. tetrandra Sw. auct. fol. obl. glabr. integr. 3nervis, racemo erecto term—Shrub of Jamaica &c.

586. *LOMANODIA* (Raf. (edge entire) diff 556, calix integro truncato . . 2 types *L. glabra*, and *mucronata* Raf. Melast. do auct.

587. *MALABATHRIS* Raf. diff. 556, cal. squamis fimbriatis vestitus imbricatis ut in *Cyanus*—this may be only a subg. unless other characters exist, it was the original *Melastoma*, two types 1 *M. nigra* R. (Mel. malabathrica L.) and *M. cyanoides* Raf. Mel. do Smith, both Indian shrubs, Smith quotes for the last *Kadali* Rh. 4, t. 43 and Rumf. 4 t. 71.

588. *FOLOMFIS* Raf. vel *Pholomphis* (scaly umb) diff. 556, bacca duplice umbilicata, squamis fl. umb. centralis clauso.—Probably other characters also. Type Mel. fragilis, Shrub of Guyana, compare *Gynomphis*, 597.

589. *ZULATIA* Neck. 791. Raf. emend. diff. 556, petalis 5 ineq. 4 eq. minor, 1 major, antheris bifidis, bacca 3loc. 6sp.—3 types *Z. levigata*, *alata*, *grandiflora* Raf. all *Melastomas* do Aublet, Shrubs of Guyana. His *levigata* is different from *Synoptera* 596. Is his *grandiflora* the same as *Alosemis grandiflora*?

590. *EXODICLIS* Raf. (out 2v) diff. 556, petalis ineq. 4 minima, cal. caliculato, bracteis 2 bivalvis, ovar. libero, capsula libera 2-5valvis, cal. et valvis obsita. *Annuis cinereis, fl. corymb.* &c

—2 types. *Ex. latifol.* and *angustif.* Raf. Melast. bivalvis and trivalvis Aublet, *Rhexia* do W. P. &c family RHEXIDES.

591. *XERACINA* Raf. (dry berry) diff. 556, cal. turbinato libero, bacca exsuca &c—3 types *X. villosa*, *aquatica*, *scandens* Raf. Melast. do Aublet. Is *M. staminea* Lam. with cal. turb. striate a 4th?

592. *JARAVEA* Neck. 792, diff. 566, cal. libero, antheris bifidis, capsula libera 5locul---several sp. of Aublet belong here, and in Necker it included *Exodichlis*.

593. *BENKARA* Ad. diff. 556, Stam. 5, bacca 4locul. polysp. *Spinosis*, *spicis axil*---is it of this family? Adanson quotes as type *Benkara* Rh. 5. t. 35. *B. galia* Raf.

594. *NAREGA* Raf. Catunaregam Ad diff. 556, cal. 4-5fid. pet. 4-5, Stam. 8-10, bacca 2locul. *fl. corymb*—Type *N. codura* Raf. Rheed. 4 t. 13. Malabar.

595. *SOTULARIA* R. (n. iud.) Catuadamboe Ad. diff. 556, cal. 5-7fid. pet. 5-7, Stam. 5-7, bacca 5-7locul. sem. planis fl. *panicul*—Type *S. malabarica* Raf. Rh. 4 t. 22.

596. *SYNOPTERA* Raf. (union by wings) diff. 556, cal. tubul. 5dent. pet. 5ineq. contortis, Stam. 10 ineq. genicul, ovario ad cal. coalito alis 10 membr. stig. concavum—very strange and peculiar union of calix by membranose wings. Type *S. levigata* Raf. Mel. do L. auct. and perhaps other sp. may offer this singularity of structure, compare *Zulatia* 589.

597. *GYNOMPHIS* R. (fem. umb) diff. 556. cal. tubul. 5fidus, pet 5 obcord. fil. et antheris incurvis ovar. 5dent. capsula umbil. apice 5valvis 5loc. *fl. panic*—Type *G. argentea* Raf. Mel. do Lam. *Rhexia holosericea* H. B. t. 12. b. reg. 323, se-

ricea, fol. ov. cord. int. panic. term—plant of Brazil, flowers dark blue.

598. *ABROPHAES* Raf. (elegant aspect) *Fothergilla* Aubl. non alis diff. 556, cal. turb. 5dent. bibract. pet. 5 eq. unguic. antheris incurvis, stylus longus pilosus, stig. capit. planum. bacca exsuka striata coronata 3locul. *Frut. fl. racem.*

599. *Abrophaes mirabilis* R. Foth. do Aubl. Vitm. Melast. tamonea Sw. W. P. auct. fol. pet. ovatoobl. acute integris 5nervis subt. toment. racemis term.—Shrub of Guyana 4-5feet high, flowers white.

600. *CLASTILIX* Raf. (broken calix) diff. 556. cal. tubuloso obl. vel ovato inequaliter disrum-pentes—Types *Cl. mexicana*, *tunicata*, Raf. Melast of Kunth.

Such was the medley of Melastomas, united by no characters, except leaves opposite nervose!!! not satisfied with this, the Linnean Botanists and even Kunth have thrown into it the good *G. Maieta*, *Tococa*, *Topobea* of Aublet, and even *Tristema* of Jussieu! also *Tibuchina* since put in *Rhexia* with all the capsular sp. see next Centuria. It appears that all the sp. with inferior berries form this family, to which ought to be united the baccate *EPILOBIDS*, such as *Fuchsia*, *Muriria*, *Cacucia*, *Dorvallia* &c and the *MYRTIDES* with definite stamens.

CENTURIA VII.

601. **MAIETA** Aubl. Jus. Vitm. diff. 555, cal. obl. 5gonus, antheris bicornis, ovar. 5gon. stylo brevis, stig. cap. *Frut. fl. axil*—Type *M. guianensis* Aubl. &c. Mel. maieta W. P. &c.

602. **TOCOCA** Aubl. Jus. Vitm. diff. 556. cal. turb. 5d. pet. 5 conc. invol. stam. 10 inserta ad disco annularis supra cal. anther. obl. acut. bacca 3locul. *Frut. fl. spic. vertic.*---Type *T. guinensis* Aubl. &c. Mel. physiphora V. W. P. Is. *M. verticillata* a 2d sp?

603. **TOPOBEA** Aubl. J. V. Drepanandrum Neck 793, diff. 556, cal. camp. 6cuspid. ad basi calic. involucro 4partito, pet. 6 ineq. stam. 12 incurva connivens, stylus declinatus, stig. capit. 6sulc. bacca spongiosa 6loc. involucro obvol. cal. deciduo non coronata. *Sarment. fl. axil.*---Type *T. parasitica* Aubl. t. 189. Mel. do auct. *M. involucrata* is perhaps a 2d sp. and all the doubtful dodecandrous sp. may be refered to it till better known, such as *M. patens* Sw. nivea and setinoda Kunth &c.

604. **SAVASTANA** Necker 795, Tibouchina Aubl. J. V. (n. barb) diff. 556, cal. 5fid. basi squamis calicul. pet. ineq. 1 major, filam. incurvis, anth. bicornis, stylo 5gon. stig. acutum, caps. 5locul. 5valvis libera. *Frut. fl. axil*---of family RHEXIDES, Type Sav. aspera Raf. Tib. do Aubl. 177. V. Melast. aromatica Vahl, P. Rhexia aspera W. Pers. put in 2 Genera by Persoon!

605. **RHEXIA** L, this G. has been greatly increased also by throwing into it all the capsular Melastomas and even Osbeckia, Kunth has 27 sp. those of N. America and akin form a natural genus by calix like a bottle 4toothed, 8 stamens &c, all the others must be removed.

606. *EPHYNES* Raf. (n. myth) diff. *Rhexia*, cal. tubulosus tereto 4dent—Type *E. bonplandi* Raf. Rh. do K.

607. *ALIFANA* (Ad) diff. *Rhexia*, cal. campan. ut *Melast.* 5dent. stam. 10, caps. 5valvis, pet. 5eq.—Types all the decandrous *Rhexias* or *A. canescens*, *striata*, *lutescens*, *montana* Raf. (*Rhex. polypetala* R. P.) &c chiefly shrubs. Very near to *Acisanthera*. All the *G. Rhexia* was called *Alifanus* by Adanson.

608. *BOLINA* Raf. (nymph) *Bertolonia* Radl non Raf. 1814, diff. *Rhexia*, cal. angular 5gonus, stam. 10.—*B. divaricata*, *excelsa*, *conferta* &c put in *Rhexia* by Kunth, trees and shrubs.

609. *OSBECKIA* L. this *G.* lately deemed doubtful has been well settled by Smith, the main difference from *Rhexia* being the small double-alt. teeth of calix, but it has also 8 or 10 stam. and calix of several shapes, which must be subg. at least until increased. Real *Osbeckia*, cal. infund. 8dent. 4 minor, pet. 4, stam. 8—Types *O. chinensis*, *zeylanica*, and perhaps *ornata*, but this called *Rh. inconstans* by others has perhaps ovary free? how is the calix? see 4 next *G.* or subgenera.

610. *KADALIA* Raf. diff. *Osb.* cal. 10d. 5sq. pet. 5, stam. 10.—Types *Osb. antennina*, *rotundif.* Smith, African plants like 3 next. *Kadali* was *Osbeckia* in Adanson.

611. *DEROSIPHUA* R. (neck tube) diff. *Osb.* cal. basi ventric. apice tubuloso elongato 10d. pet. 5, stam. 10—Type *Osb. tubulosa* Sm.

612. *HEDUSA* Raf. (nymph.) diff. 611. cal. toto tubul. tereto—Type *Osb. grandiflora* Sm.

613. *DUPINETA* Raf. (bot.) diff. 611. cal. toto campan. ut in *Melastoma* sed 10d. &c.—Type *Osb. multiflora* Sm.

614. *QUIRINA* R. (nymph) diff. Cuphea, caps. 2loc. petalis minutissimis. *Frut. fl. supraxil*—one of the G. blended in Cuphea with caps. uniloc. petals unequal.

615. *Quirina microphyla* R. Cuph. do Kunth, frut. scabra, fol. obl. lanc. acutis, fl. suprax. secundis albis—Shrub of Mexico.

616. *BERGENIA* Raf. diff. Cuphea petalis ineq. —Type C. siphilitica K. plant. *Bergenia* was Necker's name for G. Cuphea.

617. *ENDECARIA* Raf. diff. Cuphea, cal. tubul. calcarato vel basi gibboso, 6dent. petalis 2 undulatis superis, inferis nullis, stam. 11. *fol. oppositis, fl. axil.*

618. *Endecaria coccinea* Raf. Cuphea Llavea b. reg. 1386—fol. ovato lanc. acum. ped. axil. 1-3fl. nutans, pet. obov. coccineis—Mexico.

619. *MELVILLA* Anderson, diff. Cuphea, cal. arcuato infundib. ringens ineq. 6dent. petalis nullis, stam. 12 declinatis ineq. caps. 1loc. placentis 2 centralis. *fol. alt. fl. racemosis.*

620. *Melvilla speciosa* And. R. Cuphea melvilla b. reg. 852. fol. ov. lanc. scabris subsess. racemis term—Guyana, red flowers.

621. *WOODFORDIA* Sal. diff. *Grislea* and *Lythrum*, cal. clavato tubul. arcuato 6-12dent. pet. 6-12 extus glandulis 6-12 oppos. intus basi cal. nectario 6-12fidus staminif. stam. 6-18, antheris peltatis. *Frut. fol. oppos. fl. term.*—very distinct G. one of the dozen shuffled in *Lythrum* by Linneus.

622. *Woodf. floribunda* Sal. par. 42, *Lythrum fruticos.* L. *Grislea toment.* W. auct. b. reg. 30. fol. sess. lanceol. integris subt. toment. —China &c, shrub with torn bark, fl. scarlet.

623. *LYTHRUM* L. the herbaceous sp. form many G. such as *Decodon*, *Parsonsia*, *Pemphis*,

Ododeca Raf. Hexarina Raf. and I will add 2 here. The incongruity was glaring, *L. salicaria* is the type of the Genus.

624. MELFONA R. (nymph) diff. cal. tubul. infund. strictus 6-10dent. petalis 6-10, Stam. 6-10 ineq. stig. acut. caps. uniloc. oligosp. ad cal. erumpens. fl. alt. axil.—Type *M. purpurea* Raf. Lythr. melanium L. auct.

625. EDITELES R. (is 2 perf.) diff. Lythr. cal. 4dent. basi 2bract. calic. petalis 4, Stam. 2. caps 2loc. fol. alt.—Type *E. thymifolia* Raf. Lythr. do L.

626. DIPETALON Raf. diff. Lythr. petalis 2 erectis, Stam. 12. &c—G. akin to Endecaria 617, Type *D. speciosum* Raf. Lythr. dipetal. L. auct. frut. fol. opp. ternisque sess. ovatis viscosiss scabris—Fine shrub of S. Amer. fl. violaceous.

627. NESAEA Jus. diff. Lythr. cal. ventric. 4-6d. pet. 4-6, Stam. 8-12, caps. 4loc.—Type *N. triflora* K. Lythr. do L. and the two next shrubs, but Decodon united by Kunth has caps. 3loc.

628. *Nesaea speciosa* K. frut. fol. sess. ovat. acutis, ped. 1fl. fl. 12andris—Brazil shrub.

629. *Nesaea salicifolia* K. frut. fol. pet. lanc. acutis ped. 1fl. 12andris—Mexican shrub.

630. BECKEA Osb. Sm. this G. has also been deformed by forcing N. G. into it, the original G. had cal. 5fid, pet. 5, Stam. 8-10 ineq. caps. coronatis 3-4loc. 3-4sp. but the 3 next G. are not such, all are shrubs and belong to the Myrtoideae. Types *B. chinensis* and *densifolia*.

631. GOMPHOTIS R. (club ear) diff. Beckea, cal. 5lobus coloratus, pet. 5, Stam. 10 eq. ovar. concretum, stig. capit. caps. 5loc.

632. *Gomphotis saxicola* R. Beckea do Hook. b. m. 3160, fol. oppos. imbric. obov. acutis. fl. axil. and term.—Australian shrub.

633. *TRIPLARINA* Raf. diff. from last, stamens 15.—Type *Tr. camphorata* R. Beck. do Hook. b. m. 2694, fol. 4far. imbric. cuneatis punctatis, fl 1-2 axil. albis—Australian shrub, *Leptospermum* differs by 20 stam. fol. alt.

634. *ALLOSTIS* Raf. diff. *Beckia*, stam. 5, caps. 2loc. Type

934. *MURRINEA* Raf. diff. *B.* cal. 4fid. pet 4, stam. 8. caps. 4loc. near next *G.*

635. *CLUACENA* Raf. (n. lat.) diff. *Myrtus*, cal. adherens 4part. pet. 4, stam. 8, bacca 2loc. polysp.—Types *Cl. vaccinoides* and *Myrsinoides* Raf. *Myrtus* do Kunth, shrubs of S. America quite different from Myrtles, Plinius called Myrtle *Cluacena*.

636. *MYRTUS* L. although apparently a natural *G.* it has been found also anomalous, and to make the matter worse the *G.* *Eugenia*, *Caryophyllus*, *Zizygium*, *Jambolifera* are proposed to increase it and make it absurd; they must all be restored and some *G.* yet divided like the last: the anatomy of the seeds although so much thought of by some botanists, is here totally inadequate, since variable forms are offered by these Genera. The *M. communis* has also many presumed varieties that are deviated species, I will give 5.

637. *Myrtus italica* Raf. ramis rectis, fol. ovatolanc. acutis sess. baccis ovatis purp. Italy, Spain &c, the var. are *lusitanica*, *betica*, *imbricata*, *laurifolia*, *nigra*, *alba*, &c.

638. *Myrtus buxifolia* Raf. ramis pendulis, fol. ellipt. obt. baccis globosis violaceis—Greece fl. small.

639. *Myrtus latifolia* Raf. fol. ovatis petiolatis—Italy var. *romana*, *tarentina* &c, smaller shrub.

640. *Myrtus lanceolata* Raf. ramis diffusis fol. subsess. lanceol. acum. Africa &c. var. *belgica* &c.

641. *Myrtus angustifolia*, fol. sessilib. linearib. mucronatis—Africa and Asia, small leaves.

642. **PIMENTUS** Raf. diff. *Myrtus*, cal. 4part. caliculatus, petalis 4, bacca 2loc. abortu 1-3sp. dentib. 4 coronata, *fol. alt. fl. corymb. polygamis*—Type *P. vera* Raf. *M. pimenta* L. and several other sp, often blended, perhaps all the alternate leaved Myrtles belong here, such as the 5 next omitted by many; and *M. gregia* Sw. or *Gregia aromatica* Gaertn. is a *Pimentus* by berry 2loc. 2sp. it is a *G.* if it has 5 petals.

643. *Pimentus cotinifolia* Raf. *Myrtus* do Burm. Plum. t. 208. Vitm. Poir. *Myrtus acris* Sw. Persoon, *Arborea*, fol. ovate, ellipt. corymbis 3shot.—Antilles.

644. *Pimentus geminata* Raf. Burm. pl. 207. fol. linearib. pedunc. axil. geminatis—Antilles.

645. *Pimentus triflora* Raf. *M.* do Jaq. Vitm. *Arborea*, fol. pet. obl. emarg. pedunc. axil. 3floris—fine tree of Carthagen, large leaves 8 inches long aromatic, fl. white smell of Hyacinth.

646. *Pimentus? laurinus* Raf. *M.* do Retz. Burm. zeyl. t. 62. Vitm.—*Eugenia laurina* P.—*Arborea*, fol. ovato lanceol. serrul. pedunc. racemosis.—Ceylon, size of Cherry tree, affording an odorous resin useful for palsy.

647. *Pimentus? saligna* Raf. Myrt. do Burm. Rumf. 2 t. 17, Vitm.—fol. lineari lanceol. integris, spicis termin, baccis sessilib. urceolatis—Polynesia, perhaps a peculiar genus *Coilomphis* Raf. by deep umbilic.

648. **EVANESCA** Raf. diff. *Myrtus*. fl. dioicis sepe apetalis, paniculatis, how is the fruit?—Type *E. crassifolia* R. Myrt. dioica L. auct,

649. *EMURTIA* Raf. diff. *Pimentus*, bacca uniloc. monosp. fol. oppos. In *Pimentus* the berry is naturally 2loc. 4sp. although often 2sp. and sometimes monosp. by abortion, in true *Myrtus* it is 3loc. polysperm—Types *Myrt. emarg. micrantha*, *guayaquilense*, *punicifolia* of Kunth.

650. *KARKANDELA* Ad. diff. *Myrtus*. cal. 7fidus, pet. 7, stam. 14, bacca monosp. fol. vertic. fl. corymb.—Type *K. malabarica* Raf. in Rheed 1 t. 13.

651. *AMYRSIA* Raf. diff. *Pimentus* caps. 2loc. polysp. ut *Myrtus*—Types *Myrtus microphyla*, *foliosa*, *discolor*, *compressa* and others of Kunth first section.

652. *OPANEA* Raf. Opa Lour. diff. *Myrtus*, bacca unilocul. 1-5sp.—Types *M. trinervia* Sm. and *billardiana* K.—chiefly Australian Shrubs, with 5 petals and many stamens as in real *Myrtus*, also the 2d sp. of Opa of Loureiro a tree and shrub. *Myrtus disticha* by habit and berry 3-4loc. 3-4sp. may be another G. or subg. *Distixila* or a *Burcardia*.

653. *BURCARDIA* Neck. diff. *Psidium*, bacca 4locul—Types *Burc. grandifl.* and *aromatica* Psid. do Aubl. auct. *Nelitris* of Gaertn. or *Decaspermum* Forst. is another good G. out of *Psidium*.

654. *Psidium cuiavilus* Burm. Rumf. 1 t. 49. Vitm. fol. ovato lanceol. lineatis ferrug. tomentosa, ped subbifl—Polynesia, omitted by many writers.

655. *CUMETEA* Raf. diff. *Eugenia*, bacca uniloc. monosp. non angul. sem. arillato vel membrana tecta—*Eugenia* has a 4gone drupe and hard nut. Types 1 *C. alba* R. Eug. coumete Aubl. auct.—2 *C. tomentosa*, 3 *mini*, 4 *microphyla*, 5 *fragrans*, 6 *montana*, 7 *multifl.* 8 *di-*

varicata, 9 *angustif.* R. all *Eugenias* of Authors.

656. AGUAYA Raf. diff. *Eugenia*, petalis 5 concavis, bacca unil. monosp.—Types *A. guianensis* and *tomentosa* Raf. Eug. do Aubl. auct.

657. LOMASTELMA Raf. (edge crown) diff. *Eugenia*, cal. integro repando non 4fido, bacca globosa monosp.—Type *L. elliptica* Raf. Eug. do Sm. &c. Australian Shrub.

658. EPLEIENDA Raf. diff. *Eugenia*, bacca uniloc. 3sperma—Type *E. sinemariensis* R. Eug. do Aubl. auct. Compare to 652.

959. MALIDRA Raf. diff. *Eugenia*, pet. 5. bacca pomiformis 5loc. 5sp.—Type *M. aquea* Raf. Eug. do Burm. Rumf. 1 t. 38. Vitm. fol. ovatis integris pedunc. 4floris. Amboyna.

660. SEREREA Raf. diff. *Bignonia*, cal. urceol. 5dent. cor. tubul. limbo plano 5part. lac. obcord. obliquis subeq. stylo clavato, stig. obt. antheris sagittatis lobis divaricatis---G. omitted among my reformod *Bignonias*, see 445 to 465, quite distinct.

661, *Sererea heterophylla* Raf. Bign. do W. auct. *B. cherere* Aubl. 260, bot. reg. 1301. fol. simpl. binatis vel ternatis ovatoobl. subcord. fl. panic. nutans villosis---shrubby vine of Guyana, branches angular, flowers very large 4 inches long, base yellow limb scarlet.

662. NEVOSMILA Raf. diff. *Crateva*, cal. cyathif. 4gonus, segm. 4 foliosis ineq. petalis 2-4 superis adscendens unguic. stam. 20-24 podogyno inserta declinata, stig. sess. capit. bacca 2loc. polysp.—certainly peculiar G. name applying to the bad smell. Family CAPPARIDES.

663. *Nevosmila arborea* Raf. *Crateva gynandra* L. auct.—ramis scabris punct. fol. simpl. & tern. pet. ovat. acutis, racemis term. multifl—

SYLVA TELLUR.

tree of Antilles, 12 feet high, bad smell, burning taste, flowers purple.

664. *CAPPARIS* L. auct. notwithstanding the reform of Decandole in this G. and Cleome, much remains to be revised, and I shall give a sketch of my reform of 1814, chiefly on the frutescent kinds. I have divided the family also, calling *CLEOMIDES* all the G. with a dehiscent capsule, the podogyne exists more or less in all. The real G. *Capparis* with berries includes most of the species having the characters of *C. spinosa*.

665. *INTUTIS* Raf. (n. gr.) diff. cal. 4fidus persistens, pet. 4 eq. nect. 4 ovata, stam. sepe 8 podog. inserta, stig. sess. capit. clavat. bacca uniloc. oligosperma. *Frutex, fol. oppos. fl. corymbosis*. 2 types.

666. *Intutis ferruginea* R. Cap. do L. octandra Jaq. fol. ovato lance. subt. cinereis toment. corymbis term—shrub of Guyana and Antilles, branches rusty, flowers white fragrant, taste acrid, whence called mustard shrub.

667. *Intutis amygdalina* R. Cap. do Lam. auct. fol. obl. lanc. venosis, subtus squamosis argenteis, ped. multifl.—S. America.

668. *TRICLANTHERA* R. (3loc. anth) diff. cal. rotato 4part. pet. 4 nervosis unguic. stam. 18-24 antheris *trilocularis*! bacca pedic. 1loc. sem. renif. *Arboreis, fol. ternatis*—2 types.

669. *Triclanthera corymbosa* Raf. *Capparis magna* Lour. &c foliolis 3 lanceol. fl. corymb. albis—tree of Anam.

670. *Tricl. falcata* R. Cap. do Lour. &c foliolis 3 ovato lanc. obliquis falcatis, fl. racemosis.—Tree of Anam.

671. *OLOFUTON* Raf. (n. gr.) diff. Cap. cal. 5phyl. coloratus, pet. 5 obl. bacca ped. ovata polysperma.

672. *Olofuton racemosum* Raf. Cap. can-

toniensis Lour. &c, fol. ovat. acum. rugosis—Shrub of China with white flowers.

673. **PLEUTERON** Raf. (n. gr.) *Breynia* Plum. diff. *Capparis*, gland. nect. 4. Stylo filif. stig. clavatum, bacca brevi pedic. Siliqua bivalvis torulosa—family *Cleomides*. Many types *P. breynia*, frondosa, baduca, hastata, linearis, siliquosa, comosa, torulosa, tenuis &c, all *Capparis* L. &c but some may form subg. having short capsules or long silicles. The main type *P. breynia*, is called *Sandrous* by Lin. polyandrous by Swartz, see 695 for *Breynia* of Kunth.

674. **GYNOPHALIS** Raf. subg. of last? diff. by silicles bivalve but pulpose inside with reniform seeds, types *C. obtusa* and *flexuosa*, two trees of S. Am. blended in *Cap. cynophalophora*.

675. **OLIGLORON** Raf. (n. gr.) diff. *Capparis*, petalis subeq. nectario lateralis fisso, bacca 3sperma—Type *O. zeylanica* Raf. *Cap. do L.*

676. **CLEOME** Dec. on this I must be explicit but concise as most of the sp. are plants, and I reserve my complete revision for another work, my *Polanisia* has been generally adopted, and some N. G. have been proposed, Necker had 3 fifty years ago. The real *Cleomes* have a gynophore bearing 6 stamens, types *Cl. 5phyla*, *3phyla*, *7phyla*, &c: the anomalies of the blended sp. are excessive. *Peuteron*, *Peritoma*, *Stanleya*, *Stephania*, *Warea*, *Riddelia* &c, are all **CLEOMIDES**, which Nuttall wrongly changed to *Stanleae*, see also till 707.

677. **SCHEPERIA** Neck. 1392, diff. *Cleome*, cal. 4ph. ineq. 2 minor alt. petalis nullis, stam. 8 podog. insertis, nect. tubul. bilab. ad podog. adnato, siliqua torulosa submultiloc. *Arboresc. aphylla*, fl. *corymb*—very distinct G. type *Sh. juncea* Raf. *Cl. do L. auct.* African tree.

678. **LAGANSA** Rumf. Raf. cal. camp. 4ph. lanc. pet. 4 subeq. stam. 18-24 disco plano inserta, ovar. sess. stylo brevi, stig. obt. siliqua subul. sem. renif. *Herba, fol. digit. &c.*—Type *Lag. alba* Rumf. Raf. *Cleome icosandra* L. Lour. auct.

679. **ARIVELA** Raf. diff. 678, petalis ineq. 2 divaric. stam. 8-15 ineq.—Type *A. viscosa* R. Cl. do L. auct.—Is it a subgenus of *Polanisia*?

680. **AUBION** R. (n. gr.) diff. *Cleome*, cal. 3-5ph. petalis 5, stam. polyandris, siliq. filif. sem. hispida. *Herba fol. digit*—Type *A. chelidoni* R. Cl. do L. auct.

681. **MELIDISCUS** Raf. diff. 580, cal. lin. ciliatis reflexis, pet. 4 unguic. coalitis latere fissis, stam. 6 ineq. incurvis disco mellifluo plano inserta, ovar. ped. stig. sessile truncat. *Frutex, fol. digit. fl. racem.*—Type *M. gigantea* Raf. *Cleome* do L. auct. b. mag. 3137. viridiflora Schr. foliolis 7 cuneatis acutis viscosis. Africa.

682. **THOTTEA** Rotb. Bosc. cal. colorato 3lobo, petalis nullis, disco radiato truncato staminif. stam. plura, stig. sess. siliqua 4gona.—This G. omitted by many, is near *Capparis* and *Cleome*, the type was figured by Rotboll in act. Copen. 2 t. 2.

683. **TRIPLOBUS** Raf. *Tri-phaca* Lour. Monoic. fl. masc. cal. 5fido colorato, stam. 15 brev. fl. fem. cal. ut masc. disco stipitato concavo multifido, ovar. trilobo, stylo filif. stig. 3lob. fruct. siliquis leguminif. ternis ventricosis polysp. —very singular G. certainly not of Leguminose family, nearer to *Cleomides*, but the triple fruit is a great anomaly probably type of a new family **TRIPLOBIDES** Raf. near *Euphorbides* and *Sterculides*. Loureiro name formed of *Phaca* is

erroneous, he mistook the calix for corolla, and fruits for true pods.

684. *Triplobus cordata* Raf. arbor, fol. sparsis cord. acum. integris glabris, fl. corymbosis—large tree of East Africa, with yellow flowers.

685. *SCOLOSPERMA* Raf. (spin. seed) diff. Cleome, cal. 5phyl. ineq. pet. 4 invol. equalis deflexis, nect. 0, stam. 6 ineq. longiss. Gynophoro longissimo, stig. sess. siliqua bivalvis, placent. 2 linearib. sem. echinata. *Frutic. acul. fol. digitatis*—Types several sp. blended in Cl. arborea, and akin.

686. *Scolosp. dendroides* Raf. Cl. do Shultz, Hook. b. m. 3296. Cl. arborea Dec. non Humb. arborea, acul. velutina, foliolis 7 lanceol. acum. Brazil, fl. violaceus.

687. *TARENAYA* Raf. diff. last. cal. 4ph? petalis ad basi nect. glandula. unguic. stam. subeq. antheris longis 2loc. siliqua teres torulosa. *Herba*—Type T. or Cl. *spinosa*.

688. *HEMISCOLA* Raf. diff. 687. cal. 4ph. conc. petalis unguis filif. disco plano gynoph. nullus, siliq. sessilis teres. *Herba fol. ternatis*—Types *H. aculeata* and *ornithopoides* Raf. Cleome do auct.

689. *DIORIMASPERMA* Raf. (2 pits seed) cal. 4phyl. coloratus, petalis 4ineq. 2inf. unguic. cord. crenatis, disco 3glandul. stam. 6 declinatis supra disco, gynoph. brevis, siliqua compr. declinata, sem. sepe 12 globosis utrinque latere fossula. *Herba fol. tern*—Type *D. violacea* R. Cl. do L. auct.

690. *SILICUARIA* Forsk. diff. Cleome, cal. 4ph. pet. 4 nectariferis, stam. hypog. 6 basi subcoal. disco plano, gynoph. 0, siliqua compr. gladiata recurva, sem. hirsuta. *Herba fol. tern*.—type *S. arabica*.

691. *SIERUELA* Raf. Aleome Neck. diff. last, stam. longissimis, siliquis linearib. *fol. simpl.*—Type *S. viscosa* Raf. Cl. monophyla L.

692. *MOZAMBE* Raf. cal. 4ph. patens, pet. 4 unguic. Gynoph. longiss. ad medio stam. 4. ferens, sepe 2 inf. coalita, siliq. obl. *Frutic. fol. simpl. fl. racem*—very distinct G. type *M. levigata* Raf. Cl. fruticosa L. auct.

293. *OCTANEMA* Raf. diff. Capparis, cal. 4ph. eq. stam. 8—a section of Kunth, akin to *Peuteron* 673, but fruit berry, types *O. angustifolia*, Mexican tree, *O. incana*, *crotonoides*, *scabrida*, all Capparis of Kunth.

394. *MARSESINA* Raf. diff. Capparis, cal. 4fid. equal—by this akin to *Isexima*, many sp. in Kunth, all plants.

695. *PERITOMA* . . . G. based on *Cleome lutea* of Hooker, but many anomalous sp. united; perhaps *Cl. speciosissima* and *candelabrum* may belong to it, they have petals 4 ung. unequal secund, stam. 6 unequal hypogyne, a gynoph and style, leaves digitate, . . . are they another G. *STYLISTA* Raf. akin to next.

696. *ISEXINA* Raf. diff. Peritoma, cal. persistens 4fidus, petalis eq. stam. 6 eq. hypog. gynoph. brevissimo, siliq. obl. *fol. digit*—Type *Is. aurea* Raf. Peritoma do Nut. foliolis 3-5 obl. obt. glabris, racemo bracteato. Plant of Origon.

697. *PERICLA* Raf. diff. Peritoma, cal. persist. marcescens 4fidus, pet. 4 unguic. stam. 6 basi monadelphis, gynoph. elong. stylo brevi persist. siliq. compr. torul. bilocul. sem. ad dissep. inserta. *fol. integris*---Type *P. imbricata* Raf. Perit. simplicifolia Nut. fol. imbr. lin. lanceol. racemo densifloro. Origon.

698. *DISPARA* Raf. Cristella Nut. cal. 4part. pet. 4. ung. adsc. ineq. 2 erosis major, 2 laceris,

nect. vagin. truncato, stam. 10-14 declin. gynoph. and stylo persist. *fol. tern. racemo folioso*.---G. akin to *Polanisia*, type

699. *Dispara filiformis* Raf. Crist. erosa N. viscosa, fol. pet. foliolis 3 sess. filif. Oregon fl. white, curious plant.

700. *WAREA* Nut. cal. 4ph. color. pet. 4 ung. stam. 6 hypog. stig. sess. siliq. stipit. plana 2loc. sem. plana. *Herba, fol. simpl. fl. corymb*—given here to contrast with last. Types *W. amplexif.* and *cuneif.* N. this is *Cleome do Mg.* P. E. *Stanleya gracilis* Dec. 2 florida plants.

CENTURIA VIII.

701. *RIDDELLIA* Raf. new flora 756. (bot.) cal. 5phyl. color. subeq. pet. 5 ineq. sess. disco plano, stam 5-6 subeq. hypog. ovar. sess. obl. stig. sess. obt. siliq. lin. compr. 2loc. dissep. valv. contrar. *Frut. fol. simpl. fl. extrax. fol. oppositis*—very distinct G. still of *CLEOMIDES* tribe—but section *Septilides*, seen dry.

702. *Riddellia antiphyla* Raf. n. fl. 557. ramis virg. fol. lanc. acutis serratis, petiolis pubesc. pedunc. 1fl. pet eq.—virgate under shrub of Louisiana, fl. yellow, for a longer description see my New Flora.

703. *PODOLOBUS* Raf. 1817. *Stanleya* N. 1818 &c. diff. *Warea*, pet. ung. coalitis, nect. glandulis 4. *fol. pinnatif. fl. racem.*—Type P. *pinnatifidus* Raf. 1817 descr. from specimens of Bradbury collected 1809.

704. *ATALANTA* Raf. diff. *Warea*, cal. 5dent. deciduis, pet. 4 sess. nect. 0, stam. 6 basi monadelphis, siliq. stipit. uniloc. 2valvis, stylosa, *fol. tern. fl. racem. bracteatis*—Type *At. serrulata* Raf. *Cleome do Pursh*, Nut. &c Missouri plant.

705. *PRISCIANA* Raf. cal. 4phyl. eq. persistens, pet. 4 unguic. stam. 6 subul. hypog. ovar. sessile cordato, stylo brevis, siliq. 2loc. 2valvis, sem. orbicul. planis. *fol. simpl.*—Type *Pr. capensis* Raf. Cleome do L. this like the other bilocular G. may form a Subfamily to be called P. *SEPTILIDES* Raf. Priscian was a medical writer on the Cleomes.

706. *COALISINA* Raf. diff. Cleome, cal. eq. pet. 4 ineq. apice coalitis, stam. 6 ineq. 2 superis clavatis sterilis, siliq. longe pedunc.—Type *C. angustif.* Raf. Cl. do Forsk &c.

707. *MITOSTYLIS* Raf. (sub. st.) diff. Cleome, cal. 5phyl. eq. pet. 4 eq. patens, stam. 6 eq. hypog. ovar. subsess, stylo subulato, siliq. tereta toruloso, sem. echinatis. *Herba, fol. simpl. fl. axil.*—Very distinct G. yet akin to *Scolosperma* 685 by seeds &c. Type *M. procumbens* Raf. Cleome do L. auct. with yellow fl. and perhaps *Cl. guianensis* with same habit, but petals deflexed, 6 fertile stamens, pod declinate incurved swelled: is it another G. rather? *ONCUFIS* Raf.

708. *ENDOISILA* Raf. (int. vill) diff. Euphorbia, periantho 4 dent. intus villosus, 4 alt. petalif. crassa subrot. antheris 2 subsessilib. stig. 3 acutis. *Frut. fol. oppos. fl. axil.*—very distinct G. omitted (with a few other here added) in my total reform of Euphorbias in *Flora Telluriana* 1167 to 1190, besides *Lacanthia* 356, and in *New Flora N. Am.* *Zalitea* 999 and *Aplarina* 992.

709. *Endoisila myrsinites* Raf. Euph. do Sw. &c frut. ramosiss. fol. orbic. obov. et obl. fl. axil. solit. ped—Shrub of Antilles.

710. *PECCANA* Raf. (bot.) diff. Euphorbia Periantho 10fidus, 5 alt. subrot. crenatis, 5 alt. minor turbin. truncata, stam. 8-10, stylis 3 bifidis

stig. 6 acutis. *Frut. fol. oppos. fl. dichot.*

711. *Peccana glauca* Raf. Euph. graminea Sw. non L. ramis trichot. fol. pet. ovat. integr. subt. glaucis, ped. axil. et term. dichot. paucifl. —shrub of Jamaica 3 to 5 feet high, flowers small white.

712. *DITRITRA* Raf. (2-3-4) diff. Euphorbia, periantho ventricoso, 4dent. et 4 alt. petalif. crassa turbin. trunc. stam. 2-3-4, antheris geminatis, stylis 3 bif. stig. 6 obt. *Herb. annua fol. opp. fl. axil.*—Of this G. Swartz describes 3 sp. under names belonging to other sp. and Genera!

713. *Ditritra obliqua* Raf. E. hypericif. Sw. non alis, diffusa, fol. pet. ovat. obt. obliq. subserr. ped. alt. dich. multiff. Jamaica, fl. green.

714. *Ditritra hirta* Raf. E. do Sw. and L? Hirsuta, fol. pet. ovat. acum. obliq. serratis, ped. oppos. multiff. confertis—Jamaica, fl. red.

715. *Ditritra rotundif.* Raf. Euph. chame-syce Sw. non alis. procumbens, fol. pet. subrot. serrul. non obliq. fl. subsess. confertis—Jamaica, fl. white.

716. *MUNCHUSIA* Raf. diff. Hibiscus, cal. ext. 10fidus eq. reflexis, cal. int. ineq. 5fid. 3 longiora nervosa, petalis 5 ineq. 3 erectis, 2 deflexis extus toment. stylo 5fido, stig. 5 capit. akin to my G. *Diplanoma* herb of Florida, the name is borrowed of Heister, meaning unknown.

717. *Munchusia tomentosa* Raf. Hibisc. clypeatus L. Sw. &c, frutic. ramis tom. fl. pet. cord. angul. dentic. acum. subt. toment. ped. axil. longis unifl.—Sea Shores of Antilles, shrub 6 to 8 feet high, fl. pale yellowish.

718. *RESUPINARIA* Raf. cal. ventric. 5srenato, cor. papil. resupinata, vex. reflex. basi subcord. undul. alae falc. adpr. carina falcata carinata, stam. diad. Leg. lin. compr. 2valv. sem. subrot.

ad membr. divisis. *Arbor. fol. pari pinn. fl. axil*—shuffled into 3 G. distinct from all, types probably many of the fruticose *Sesbanias*, but the main.

719. *Resup. grandifl.* Raf. *Sesbania*, *Æschyn. et Coronilla* do auct! fine Indian tree, fl. white.

720. *Ascyrum montanum* Raf. A. hyperic. Sw. frutic. ramis dichot. compr. anceps unifl. fol. subs. lanc. obt. glandulosus—small shrub of Mts. Jamaica, fl. autumnal, totally different from the N. American sp. of same name.

721. *FORNICARIA* Raf. Periantho conico imbricato, sq. muticis, multifl. floscul. phorantho paleis fornicatis flosc. includens, dorso carinatis, sem. cuneif. 2aristata. *Frut. scandens, fol. oppos. simpl. fl. term.*—very distinct G. put with *Bidens* by Swartz.

722. *Fornicaria scandens* Raf. *Bidens* do Sw. auct. Vine of Mexico and Jamaica.

723. *FLUSTULA* Raf. periantho imbric. ovato, sq. adpressis, fl. 12 flosculosis hermaphr. ad radio paulo altior, phorantho nudo, sem. obl. pappo piloso. *Frutex. fol. alt. fl. racem.*—almost akin to last except in phorantho and down, yet put in *Conyza*.

724. *Flustula tomentosa* Raf. *Conyza arborescens* L. auct.—ramis divar. villosis, fol. pet. lanc. subt. tom. fl. secundis—large shrub of Mts. Jamaica, fl. pale purple.

725. *MONTANOA* Llave. per. 5phyl. ineq. rad. 4-5obl. sterilis, flosc. 12-14 filif. 5fidis, paleis hirsutis, sem. ovat. compr. nudis. *Frut. fol. opp. fl. panic*—One of the good G. of Llave well named after a botanist, akin to *Heliopsis*, *Helepta* &c.

726. *Montanoa tomentosa* Ll. villosa, fol,

cord. deltoideis, acutis toment. petiolis alatis pinnatif. panic. corymbosis—pretty shrub of Mexico, fl. white fragrant, upper leaves often alt. lanceolate.

727. *ZEXMENIA* Ll. Per. 10-12part. phorantho plano, paleis carinatis, rad. 10-12 ov. emarg. flosc. pluris 5dent. sem. compr. arista 2-3 et coronula paleacea. *Frut. sarm. fol. oppos.*—akin to *Forbesina* (miscalled *Verbesina*) but habit very unlike; name anagram of Ximenez.

728. *Zexm. serrata* Ll. fol. lanc. serrat. petiol. fl. corymb. racemosis—Shrubby Vine of Mexico.

729. *ISMARIA* Raf. (bot.) *Rosalesia* Ll. per. 8-10part. tereto striatis, caliculus foliosus, phor. nudo, flosc. tubul. 5d. stig. 2 clavatis, pappus pilosus, sem. teres striata villosa. *Frut. fol. opp. fl. corymb.*—akin to *Cacalia*, very bad name of Llave formed of *Rosa* and *Halesia*.

730. *Ismaria glandulosa* Raf. Ros. do L. ramis virgatis, fol. petiol. ovat. subcord. supra aspera subt. toment. crenatis, corymbis ax. et term. ped. 2-5ft. Shrub of Mexico.

731. *CALOSTIMA* Raf. fl. tel. 589. Dioica, fl. masc. basi convexus, limbo patens 5fid. stam. 5 periginis, antheris 3loc. nect. centralis cyathif. fl. fem. cal. 4lob. ineq. ov. compr. stig. sess. multif. colorato, Fruct. cal. baccans 4lob. sem. 1 nigrum. *Arbor. acul. fol. alt. fl. spicatis*—very distinct G. from *Urtica*, now better described, of family *BASELLIDES*.

732. *Calostima aculeata* Raf. *Urtica baccata* L. auct. fol. pet. cord. ovatis serratis glabris, aculeatis, spicis multifidis—tree 20 feet high of S. Amer. and Antilles.

733. *STREPSILOBUS* Raf. (twisted pod) cal. 5dent. petalis 5, stam. plura 20-24 libera, stylus

filiformis contortus, Leg. maximum longissim. compr. varie contorto et spiralis 2valv. plurisp. sem. orbic. dura. *Scandens arborea*, fol. conjug. cirrhosis fl. spicatis—one of the many G. blended in *Mimosa* of L. but with habit quite peculiar.

734. *Strepsilobus scandens* Raf. *Mimosa* do Sw. non L. altissime scandens, ramis clavatis striatis, foliol. 4jug. obl. obt. emarg. spicis axil. longiss—very singular Vine of Antilles &c, climbing over 100 feet high, fl. greenish, pods from 6 to 8 feet long!

Many other G. must be established among the *Mimosas*, the labors of Willdenow and Decandole not being perfect yet, but a complete revisal would be arduous, I shall merely indicate about 20 additional Genera very concisely, see till 756.

735. *PERIMA* Raf. (n. ind) diff. *Strepsiloba*, stam. 10, leg. rectum. carinatum—*P. odorata* Raf. *Mimosa scandens* L. Pers. et auct. ind. Rheed 8 t. 32. Rumf. 5 t 4. *Scandens debilis*, ramis teres. foliolis 2jugis ovatobl. acut.—India, smaller Vine, fl. yellow fragrant, pods also very long 3 to 7 feet.

736. *POPONAX* Raf. cal. tubul. 5dent. cor. 5dent. stam. monad. leg. teres, rostrato extus carnosus, intus mellifluos, sem. obov. &c,—types *P. tortuosa* Raf. Mim. do L. auct. *Acakia* do W. D. and probably *P. farnesiana* &c.

737. *LOMOPLIS* Raf. diff. *Acakia*, leg. ellipt. obtuso membranaceo, margine aculeato. *Arbuse. fol. bipinn. fl. capit. panic. albis*,—types *L. ceratonia* and *acantholoba* R. *Acakias* do of Authors.

738. *GUMIFERA* Raf. diff. *Acakia*, leg. compr. monilif. segm. orbic. compr. 1sp.—Types *A. vera*, *arabica. nilotica* and several other sp.

139. **SPIROLOBA** Raf. diff. *Ingaria* (Inga) by pods compressed and twisted as in *Strepsiloba*—Types *T. fastuosa* Raf. Inga do W. 2 *T. unguis* R. *Mimosa unguiscati* L. 3 *T. bigemina* M. do L. and others, *circinalis*, *cinerea*, *tortilis*.

740. **SENSITIVA** Raf. diff. *Mimosa*, cal. infund. 3-4dent. petalis nullis, stam. 3-4liberis leg. artic.—many sp. blended in *M. pudica*, *sentitiva* &c.

741. **HEMIDESMAS** Raf. diff. *Desmanthus* W, stam. 5 non 10—Types *D. plenus*, *diffusus* &c.

742. **ENTADA** Raf. diff. *Acakia* fl. apetalis decandris *fol. cirrhosis*, *fl. racem.*—Type *E. cirrhosa* R. *Mim. entada* L.

743. **SENEGALIA** Raf. diff. *Acakia*, leg. stipit. brevis ellipt. membr. compr. 2-3sperm.—*S. triacantha* Raf. *Mim. senegal* L. 2 *retusa* &c.

744. **PANTHOCARPA** Raf. neog. 8. cal. ineq. 5d. pet. 5 ineq. stam. plura, leg. tereto recto multiloc. polysp. sem. obl. *Acul. fl. capitatis*.

745. *Panthocarpa chionacantha* Raf. *Mim.* do fl. lud. 331. Frutex, spinis gemin. niveis divergens capitulis globosis, leg. glutinosis—Florida and Louisiana, fl. yellow---*Mimosa eburnea* is perhaps a 2d sp. or a subg. *Eburnax spinalba* Raf.

746. **SERICANDRA** Raf. diff. *Acakia*, stam. plura 2-300 monadelphis, leg. plano recto corrugato sinuato &c---3 types *S. julibrisin*, *lophantha*, *pennata* Raf. *Acakia* do W. auct. *Julibrisin* was a Turkish name meaning silky flower compared to a tassel of silk, owing to the long silky stamens.

747. **NELTUMA** Raf. diff. *Acakia*, cal. 4-5d. cor. 4-5partita, stam. 8-10 liberis, leg. multiloc. compresso torto sem. septis carnosis divisus---Type *N. juliflora* and *N. arenosa* Raf. but pod only known in the first.

748. MITOSTAX R. (filif. spike) diff. Acakia, petalis 5, *spicis filif. fl. oppos.*---Type *M. pallida* Raf. A. do W. &c, near Gleditsia.

749. FOLIANTHERA Raf. diff. Ac. corolla 5fida, stam. 10 liberis, antheris cordatis apice foliosis, leg. obl. subcompr.---Type *F. guianensis* R. Mim. do Aubl. Acakia W. &c.

750. ESCLERONA Raf. (is hard) diff. Acakia, cor. campanul. 5fida, stam. 10 liberis, leg. ovato lignoso evalve? 10sp. sem. renif. *Arbor fol. conj. pinn. fl. capit.*---fine distinct Genus, near to my *G. Zaga* of fl. tel. 101.

751. *Escler. montana* Raf. Mimosa xylocarpa Roxb. cor. 100. Acakia do W. auct. Excelsa, foliolis 4jugis ovatobl. acut. capitulis geminatis—largest tree of the tribe over 100 feet high, valuable timber, wood hard brown. Mts. of Orissa.

752. CUPARILLA Raf. diff. Acakia, petalis 4, leg. lin. compr. semina arillis cupularis munitis. *Frut. fol. simpl. fl. glomer.*---Types *C. Sophorina* and *myrtifolia* Raf. Acak. do R. Br. Australian shrubs. Pods twisted or curved.

703. HECATANDRA R. (100 stam.) diff. Acakia cal. 4lob. cor. 4loba, stam. pluris 100 et ultra, leg. ellipt. planum fol. simpl. fl. spic.—type *H. suaveolens, oxycedrus* &c. Acakia auct.

754. ZIGMALOBA Raf. diff. Acakia, Leg. flexuoso in zigzag forma. *fol. simpl. fl. bract*—Type *Z. sulcata* Raf. Ac. do R. Br. Sm.

755. DREPAPHYLA Raf. diff. Acak. cal. 5lob. cor. 5loba, stam. indefinita, antheris bilobis, stylo obliquo, Leg. sessile obl. *fol. simpl. multinervis falcatis fl. capit*—types *Dr. lanigera* R. Ac. do Cuning. b. m. 2922, and *Dr. multinervis* R. Ac. do Dec.

756. ANNESLIA Salisb. cal. 5fid. cor. 5part.

stam. 200 capillaris, basi monad. unica series, stylo filif. stig. capit. leg. 2valv. *fol. bipinn. fl. racemo ramoso*—two types 1 *A. falcifolia* Sal. *Gleditsia inermis* L. *Acakia houstonia* W. bot. reg. 98. *Mimosa* do P. &c. 2 *A. grandiflora* Sal. Mim. Ac. do Auctoris. G. akin to *Sericandra*, how are the pods?

757. *ASACARA* Raf. neog. 9, diff. *Gleditsia*, fl. herm. cal. duplex ineq. ext. 3part. int. 3-5part. petalis 0, stam. 6-8. leg. ovat. obliq. compresso monosp. intus non pulposo—Type *A. aquatica* Raf. Gled. monosperma W. auct.

758. *MELILOBUS* Mitch. Raf. diff. *Gleditsia*, fl. dioicis polygamis; herm. cal. 5-6part. petalis 5-6, stam. 5-6, pistil. villosa, stigma pelt. leg. compressis elongatis intus pulposis polysp. fl. masc. cal. 4part. pet 4, stam. 7-8. *Arbor spin. fol. pinn. fl. spicatis amentaceis*—I restore the good name of Mitchell for all the *Gleditsias*, to this G. apparently different, if Robin's account is correct. The Asiatic sp. perhaps belong to it or form another.

759. *Melilobus heterophylla* Raf. Gled. do fl. lud 332. Ramulis patulis scabris, aculeis basi fascic. ramosis, fol. pinn. et bipinnatis—Louisiana, lurge tree 70 feet high, very distinct from *Gl. triacanthos* by long thorns surrounded with small ones at base, some trees are polyg. by herm. and male fl. others bear only female.

760. *BAUHINIA* L. &c, this G. like *Mimosa* has been made up pretty much by habit of *binate leaves* instead of flowers! yet no one has thought to reform it, altho' some admit of *Hymenea*, *Phanera* and *Pauletia*. I shall attempt to indicate such a reform and revision, see till 767.—*BAUHINIA* Raf. cal. 5fid. fisso decid. pet. 5 subeq. stam. 10 ineq. liberis fertilis, leg. stipit.

uniloc. 2valv. polysp. *fol. binatis fl. rac*—Types most of the sp. mostly trees but all must be verified.

761. **BINARIA** Raf. diff. cal. ventric. 5dent. stam. 10eq. Leg. sessile—Type *B. cumanensis* Raf. Bauh. do K. Dec. bot. reg. 1133 &c, lobis ovatis acutis, fl. racemosis albis.

762. **MANDARUS** Raf. diff. stam. diadelphis fertiles, petalis camp. Leg. stylosis brevis planis oligospermis—Type *M. or B. divaricata*, acuminatr, pescapra, rotundif. &c, *B. utimuta* Aubl. has same pod but how are stamens?

763. **PAULETIA** Cav. diff. cal. persistens 5fid. pet 5 unguic. stam. 10 basi monadelphis crassis fertiles 5alt. brevior—Type *P. aculeata and inermis* Cav.—*Bauhinia* do Pers. auct.

764. **CANSENIA** Raf. diff. cal. tubul. striato 5 dent pet. subulatis, stam. 5 longior 5brevior leg. longissimis—Type *C. or B. angulata*, and tomentosa? st. monad.

765. **TELESTRIA** Raf. diff. petalis angustis, stam. monad. 7 steriles, 3 fertiles, leg. longissimo plano—Types *T. or B. purpurea* and *racemosa*.

766. **MONOTELES** Raf. diff. stam. 9 monad. steriles, una libera fertilia—Type *M. paradoxa* Raf. *B. monandra* auct.

767. **PHANERA** Lour. diff. cal. 4phyl. ineq. pet. 5 ineq. unguic. appendic. stam. 3 liberis, leg. stipit.—Type *Ph. scandens* Lour. Bauh. do L. and perhaps other Vines blended in the G.

768. **CASSIA** T. Neck. G. Dec. *Cathartocarpus* Pers. *Bactryrilobium* W. En. very distinct G. of trees by terete pulpose multiloc. pods, from which *SENNA* T. N. Dec. is now removed by pods membr. compr. 2valv. 2loc. chiefly plants, but offering many anomalies and distinct G. which I will partly describe being seldom shrubs

see next and 793 to 812. The types of *Cassia* are *C. fistula*, *brasiliensis*, *baccilaris* &c, those of the real *Senna* are *S. officinalis*, *italica*, *angustifolia*, *marilandica* &c. *Bactyrilobium* name applied in 1809 in Wild, enumer. to *C. fistula* may be given to a subgenus: *Cathartocarpus* applies better to it.

769. **HERPETICA** Raf. diff. last, petalis conc. inferus fimbriato undul. stom. 10, steriles 3 parvis, 4 fertilia minora, 2 majoris cum antheris longis recurvis sagittatis, styl. recurvus, leg. 4angul. bialata, alis cuneatis, intus septis membran. inter semina. *Frut. racemis term*—Type *H. alata* Raf. *Cassia* do L. auct. Rumf. 7. t. 18, and perhaps *C. sericea*, *canca*, *albida*, *grandis*, *javanica*, *villosa*, &c.

770. **OSKAMPIA** Raf. (bot.) cal. 5part. cor. infund. 5fida, stom. 5. antheris subsess. styl. clavatus, stig. capit. bacca scabra 2loc. 4sp. *Frut. scandens*, *fol. alt. fl. subrac*—Types *O. scandens* and *hirsuta* Raf. *Tournefortia* do L. auct. very dist. G. of Vines, berries not biporose.

771. **MOLUBDA** R. (n. gr.) diff. *Plumbago*, cal. tubul. basi ventric. 5gon. 5sulc. 5dent. cor. infund. limb. patens 5lobis emarg. nect. 5 ov. cingens subrot. stom. 5filam. subul. stig. 5fidum. sem. ovat. tunicat. *Frutex scandens*, *fl. panic*—Type *M. scandens* Raf. *Plumb.* do L. auct.

772. *Erithalis odorata* Raf. arborea, fol. obov. fl. cymosis pedunc—Antilles, small tree, fl. fragrant. One of the 3 sp. blended in *E. fruticosa*, this is the sp. of Plumier and Jaquin.

773. *Erithalis elliptica* Raf. frutic. erecta, fol. ellipt. fl. term. cymis trichot.—In Jamaica, *E. frutic.* of Swartz not others who says calix 5gone 10dentate, stamens 5 to 8, inodore.

774. *Erithalis procumbens* Raf. suffrut. pro-

cumbens, fol. ovatis obovatisque—Caraccas, fl. inodore.

775. *EPHAIOLA* Raf. (is brownish) cal. tubul. 4-5fid. cor. subcampanul. apice ventricosa, limbus 4-5fid. revoluto, stam. 4-5 eq. exerta, stylus elong. ut stam. stig. incrass. bacca uniloc? polysp. *Frut. fol. alt. fl. sparsis*—very distinct G. near to Opsago 281 not same as *Pederlea* 277.

776. *Ephaiola odorata* Raf. *Atropa arborescens* L. auct. *Pederlea* do see 279. Shrub of Antilles. fl. white odorous autumnal, leaves dark.

777. *GONUFAS* Raf. (ang. cup.) diff. *Celosia*, cal. 5part. eq. stam. 5 monad. antheris inserta inter tubo cyathiforme 5gonus, stylus 5fido, stig. 3, caps. circums. uniloc. polysp. *Frut. fol. alt. fl. racem.*—very distinct G. to be added to my same revised G. in fl. telluriana where I joined it to *Lophoxera* 560.

778. *Gonufas panicul.* Raf. *Celosia* do L. auct. frutic. prostrata, fol. pet. ovatobl. acum. racemis panic—Antilles fl. white.

779. *EVERION* Raf. (well wooly) diff. *Gomphrena*, cal. 5part. eq. caliculat. sq. 2-3, stam. 5 basi monadelphis, stylo unico, stig. capit. caps. lanata 2valv. monosp. sem. compr. magna. *Frut. fol. oppos. fl. spic. interruptis*—very distinct G. united to my *Minanga* 728. fl. tellur. but rectified by Swartz good account.

780. *Everion interrupta* Raf. *Gomphr.* do anct. *Celosia procumb.* Jaq. Mur. ramis genic. lanatis fol. lanc. obt. toment. fl. congestis lanatis in spicis inter.—Antilles, shrub bipedal.

781. *LORANTHUS* Raf. non auct. dioica, cal. integro obsoleto adherens, cor. rotato 6part. segm. staminif. ad apice, bacca 1sp. *fol. oppos. racemis term.*—Type L. europea and other sp. with such characters; but the linnean G. was

vastly increased being made a medley of chiefly parasitical tropical shrubs; see till 792.

782. *MEIENA* Raf. diff. cor. 5fida, stam. 5 ad medio cum. filam. antheris elongatis cor. longior *fol. alt. racemis axil.*—Type *M. axillaris* Raf. Lor. pentandra L. auct. Lor. glaucus K. belongs to this or next G. ff. hermaphr. in all except the true *Loranthus*.

783. *ITICANIA* Raf. (n. ind.) diff. pet. 5-6 liberis, *fol. opp. fl. capit. involucro 5phylo*—Type I. or L. *loniceroides*.

784. *HYPIPIUS* R. (cup under) diff. ovario caliculat. ext. urceolatus, cal. superus marginalis, pet. 6 revolutis, stam. medialis, fil. filif. bacca cupula inclusa. Types *H. trigona* Raf. Lor. americanus L. auct. 2 *bracteata* R. Lor. *cupulifer* Kunth.

785. *ALLOHEMIA* Raf. diff. 781, pet. 6 basi fere connata ineq. 3 alt. brevior stam. sterilia ferens, stam. 3 fertilia, *fl. axil*—Types 1. *A. purpurea* Raf. Lor. occidentalis L. auct. 2 *A. uniflora*, 3 *A. pedunculata*, antheris appendiculatis.

786. *SCURRULA* Raf. diff. 781, cor. 4part. stam. 4, *fl. axil.*—Types 1 *Sc. obovata* R. Lor. *scurrula* L. auct. 2 *Sc. elliptica* R. Lor. *tetrapetalus* L. auct. 3 *Sc. umbellata* Raf. Lor. *tetrandra* R. P..

787. *TAGUARIA* Raf. diff. cor. 7-8part. stam. 7-8, *arboreis fl. racem. bracteatis*—Types *T. vera* (L. tagua) *laurif. nitida, punctata, puranensis, elliptica* &c, all *Loranthus* do of Kunth or Ruiz, and Peruvian trees.

788. *ETUBILA* Raf. diff. cor. tubulosa teres vel clavata, apex 5-6fida—Types *E. longiflora, brasiliensis, dichotoma* &c, Raf. all Lor. do auct.

789. *ANTRIBA* Raf. diff. cal. concavo, cor. tubulosa, tubo curvo, limbo 4fido ineq. stam. 4.—Type *A. budleoides* Raf. Lor. do R P. auct.

790. *EPICOILA* Raf. diff. pet. 5. stam. 5, bacca ovata supra concava. *fl. corymb*—Type *Ep. grandiflora* R. Lor. do R. P. &c.

791. *PELTOMESA* Raf. diff. stigma magno capit. peltato, (in omnib. alia obtuso) *racemis axil.*—Type *P. acuminata* Raf. Lor. do R P. &c,—Thus at least 12 G. were blended in *Loranthus*, and perhaps more. The verticillate and articulate sp. may also form peculiar G. or groups, Kunth suspects the last might belong to *Viscum*, a G. very akin, with 3 or 4 stamens.

792. *GLUTAGO* Com. diff. *Loranthus* cal. sub 5dent. basi 2bract. cor. tubulosa latere fissa (ut *Scevola*) ligulata 5fida 5andra—Type *Gl. spicata* Raf. Lor ? spicata auct. For some N. sp. of this family see appendix.

793. *ISANDRINA* Raf. cal. 5ph. ineq. 3 major fornicata, petalis 5 ineq. unguic. uno superus major difforme, stam. 10 equalis, filam. brevis declin. antheris incurvis eq. omnes fertiles. Leg. planum 2valv. intus pulposo. *Arborea fol. paripinn. racemis axil*—Type *I. arborescens* Raf. *Cassia emarginata* L. auct. How different from 768 and 769. The true *Senna* differs from this by cal. eq. pet. subeq. stam. ineq. 3 inf. steriles, leg. ellipt. planum membran. bialato.

794. *DISTEREPTA* Raf. diff. *Cassia*, stam. 7, fertiles 5, antheris lin. porosis, steriles 2 minuta, ovar. villos. stylo crasso recurvus, leg. tereto. *Herba fl. axil.*—Type *D. pilosa* R. *Cassia* do L. auct. name means 2 sterile out of 7.

795. *HEPTEIRECA* Raf. (abbrev. of *Heptasteirodeca*) diff. *Senna* pet. 5ineq. vexil. duplo major, stam. 10, steriles 7 brevis, fertiles 3 longis,

stylo curvo *fl. axil*—Type *H. glandulosa* Raf. Cassia do Hooker b. m. 3435 non L. nec Dec. which is next G.—fol. multis. obl. cusp. pet. gland. fl. solit. et gem. S. America.

796. *DIALANTHERA* Raf. diff. 794. *stam. 6 fertiles, ineq. antheris 2 longissimis*—Type D. or *C. glandulosa*, L. auct.

797. *PEIRANISIA* Raf. (def. uneq) diff. *Senna cal. ineq. pet. subeq. 2 inf. major, *stam. anomalis 6, filam. 3 divisio 2 fertiles, 1 sterilis, filam 3 connexis 2 steriles, 1 fertiles, antheris totalis 3 fertiles rostratis major, stig. acut. sessile, leg. falcato. fl. axil.*—very singular G. and anomalous stamens forming a good G. in the Cassias*—Type *St. aversiflora* Raf. Cassia do Hook. b. m. 2638. fol. 7jugis obov. ped. 2fl. divaric—Brazil, large yellow flower.

798. *DITREMEXA* Raf. (2 holes 6) diff. *Senna petalis unq. ineq. *stam. 10 fertiles 6, antheris arcuatis biporosis, sterilis 4 minor, stig. dilatato sulcato, leg. lin. compr. falcatis fl. term*—Types *D. fetida* and *caroliniana*, blended in Cassia occid L. auct. also *C. ligustrina* and several others.*

799. *XAMACRISTA* Raf. diff. *Senna, pet. ineq. 2 sup. minora. *stam. 10 ineq. fertiles, 3 longior, antheris omnes angul. biporosis. fl. axil*—Types *X. triflora* Raf. Cassia chamaecrista L. auct. and several other herbaceous sp.*

800. *EMELISTA* R. diff. Cassia, cal. ineq. 2 maj. pet. subeq. *stam. 10, sterilia 4 sup. castratis, fertiles 6 ineq. 4 major, 2 inf. deflexa, antheris biporosis, stylus subul. recurvus. Leg. tereto angulat. curvum Herba, fl. axil*—Types E. or C. obtusifolia.

CENTURIA IX.

801. *DIALLOBUS* R. (2 diff. pod) diff. Senna, cal. eq. nervosis, pet. ineq. nervosis emarg. stam. 6-9, omnis fert. ineq. 2-3 brevior antheris 4gonis birostratis biporosis, stylo brevis, Leg. biformis teres and compr. sinuato vel falcato vel recto. *fl. axil*—singular G. by the change of pods on the same plant, including perhaps several G. I describe the flowers on our American *Cassia toroides*, the shrubby *C. bicapsularis* may be different, nay some mention bilocular pods. Types *C. thora*, and *bicapsul*, with several sp. blended with them, 3 of which I now give.

802. *Diallobus uniflorus* R. Cas. bicaps. Miller &c. diff. annua, fl. solit. parvis, leg. tenuis—Antilles, Madera. A 2d sp. is *D. sunsub.* R. Cas. do Forsk, Vitm. Arabia.

803. *Diallobus falcatus* R. Cas. toroides R. med. fl. Cas. thora of Am. bot. fol. 3jugis obov. ciliatis, glandula pedic. ped paucifl. leg. falcatis compr.—Carol. Kentucky &c, large annual.

804. *NICTITELLA* Raf. diff. Senna, pet. inf. major, stam. 5-9 ineq. 3 major, omnis fertiles, leg. compr. membr. recto non alato—several types *N. amena* (*C. nictitans*), *N. aspera*, *N. mimosoides*? &c.

805. *SCOLODIA* R. (sp. dent) diff. Senna, cal. 5phyl. subeq. pet. 5ineq. 4 ung. minor, 1 infer. major concav. stam. 10 ineq. 3 post. sterilia, 7 fertilia, 6 minora 1 deflexa, antheris rostratis, ovar. stipit. deflex. recurv. styl. brevis, stig. obt. Leg. breve planum 2valv. uniloc. Frut. scandens, fol. pari pinn. *fl. ax. racem.*—Type *Sc. viminea* Raf. *Cassia* do L. auct.

806. *PANISIA* R. (quite uneq) diff. Cassia, cal. eq. petalis omnis ineq. unguic. stam. 10, sterilis

3 inf. spatulatis, fertiles 7 ineq. 3 sup. major antheris longis apex mucrone linguiforme, 4 media brevior antheris muticis, ovar arcuato, stig. sessile acut. Leg. compr. falcato multiloc. subartic. sem. obliqua renif. *Arborea fl. axil*—Type *P. biflora* Raf. Cassia do L. auct. Lind. b. reg. 1310—S. Amer. tree.

807. *ADIPERA* R. (not 2 def.) cal. 4part. ineq. 2 major interna alt. pet. 5 ung. eq. stam. 2 perfecta declinata, cetera effœta sterilia, ovar. uncinat. *fl. axil*—calix quite different from others.

808. *Adipera herberti* Raf. Cassia do Lind. b. reg. 1422. fol. subbijug. lanc. subt. pubesc. ped. multifi. Antilles.

809. *OPHIOCAULON* Raf. diff. Senna, cal. eq. pet. ineq. conc. stan. brevis 5 steriles, 5 fertiles quorum 3 major deflexa, anth. lin. stig. villosa marginatum. *Herba, fl. extraxil*—Type *O. serpens* Raf. Cassia do L. auct.

810. *TAGERA* R. subg. of Senna, diff. by pod elongate, compressed not winged, such are *T. filiformis* Raf. Cas. tagera L. auct. shrub of India, and also Cas. absus, 4phyla, glauca, and other sp. But there are other subg. to frame, the sp. with terete pods must be subg. *TERELEGUS*, such are *C. corymbosa*, *crassifolia*, *linearis* &c, the sp. with torulose pods must be *TRANSVERSULA*, such are *C. chinensis*, *torula* &c—while *C. ruscifolia* with pod rostrate pulpose, must be *ROSTELLA*.

811. *DIPLOTAX* R. this G. differs from all by long terete slender pods with seeds in a double row, but I lack the other characters—Type *D. arborescens* R. Cas. do and frutescens auct.

812. *OCTELISIA* R. (8 perf.) diff. Senna, pet. ineq. stam. 8 fertil. 4 longior, 2 sterilia brevis, leg. falc. compr. *racemis axil*.

813. *Octel. aurea* Raf. *Cassia purpurea* Edw. b. reg. 856. fol. 8-9jugis lanc. pilosis—Bengal, golden flowers.

814. *Thyrsosma* Raf. diff. *Viburnum*, cal. campanul. 5lobus, cor. rotata subhypocrat. disco glanduloso conico stigma 3gono ferens. *fl. thyrsoides*---a fine distinct G. even if *Viburnum* should not be divided in *Opulus*, *Lentago* and other subgenera proposed by me in 1820, by flowers radiate or uniform. stigma simple or trilobe.

815. *Thyrsosma chinensis* Raf. *Viburnum odoratissimum* Edw. b. reg. 456---fol. ellipt. coriaceis perennis, margine reflexo vix dentato, thyrsos brachiato trichotomo---evergreen shrub of China, flowers uniform white, fragrant like *Olea fragrans*.

816. *PHYLLIREA*, Willdenow had only 3 sp. as Linneus, yet in a subsequent work *Enumer. plant*, he has ascertained that all the presumed varieties were specific deviations, and called them *Ph. virgata*, *levis*, *obliqua*, *pendula*, *oleifolia*, *ilicifolia*. All shrubs of South Europe.

817. *BENTHAMIA* Lindl. non Rich. ad *Cynoxylon* vel *Cornus florida* differt, drupis concretis, fructus globoso intus carnosio ut *Morus*? very singular G. uniting the *CORNIDES* with *NAUCLIDES*, very near to my subg. *Cynoxylon* of med. fl. 1828, and Lindley even asks if the type *C. florida* has not the same fruit, no such thing. The *Benthamia* of Richard is *Herminium* of others.

818. *Benthamia fragifera* L. b. reg. 1579. *Cornus* do Wall. t. 214, fol. fol. opp. lanceol. invol. 4 ovatis acutis lutescens, fruct. roseo basi umbil.—Tree of Ava, fruits like strawberries.

819. *Amphione splendens* Raf. *Ipomea* do

Sims b. m. 2628, Letsoma Hortis—fol. ovat. integris subtus argent. ped. axil. multifl.—shrub of East Indies to be added to my *G. Amphione* fl. tel. 1031 by flowers tubular &c, incarnate.

920. *Acuston* Raf. (n. grec.) diff. *Lunaria* and *Farsetia*, cal. adpr. vix sacato, pet. unguic. integris patulis, stam. brevis basi dent. stylo teres, stig. capit. silic. ellipt. toment. planis, sem. paucis, rotundo-cord. alatis—nearer to *Adyseton* Ad. based on *Alyssum alpestre*, than to the *G.* united to. *Farsetia* has bisacate calix and orbic. silicle.

821. *Acuston lunaroides* Raf. *Alyssum* do W. P. *Farsetia* do Br. Dec. b. mag. 3087. *Lunaria greca* Wild. En.—Suffrutic. fol. incanis obl. spat. undul. fl. subspic. sulfureis—Shrub of Greece.

822. *Acuston? clypeatum* Raf. *Alys.* do L. &c, *Lunaria canescens* W. en.—oriental plant, perhaps a subg. by petals linear acum. silicles obliquial, *Plagidon* Raf.—*Lunaria suffrutic.* Vent. &c is perhaps a 3d sp. with obovate silicles. The *G.* *Ganblum*, *Adyseton*, *Aubrieta* &c of Adanson are akin and not well refered by Decandole.

823. *Cistus* L. one of the most prolific *G.* divided in 2 *G.* 3 subg. and 9 sections in Decandole not always well named; but many good *G.* are yet hidden in it and *Helianthemum*! some of which will now be indicated out of a labor of mine on them as early as 1812—the real *Cistus* Raf. has cal. 5part. subeq. caps. 5 loc. 5v, a style &c, Trees and Shrubs, *C. salvif. creticus* and akin.

824. *LADANUM* Raf. diff. *Cistus*, caps. 10loc. 10valv. stig. sessile—Type *L. verum* Raf. *C. ladanifera* L, &c. and the akin species.

825. *STROBON* Raf. (n. gr.) diff. *Cistus*, cal. ineq. vel. duplex, ext. min. 2ph. intern. 3phyl. majus.—Thus calix of *Anthelis*, but fruit of *Cistus*, types 1 Str. or *C. halimifolium*, 2. *Str. raginatum* Raf. *Cistus* do Jaq. vel symphitif. Lam.

826. *LIBANOTIS* Raf. diff. *Cistus*, cal. 3phylus eq.—Types *L. umbellata* Raf. *C. libanotis* auct. 2 L. *C. populifolius* &c.

827. *ANTHELIS* Raf. 1813 *Chloris Etnensis*. *Helianthemum* T. J. auct. *Psistus* Necker, diff. *Cistus* cal. ineq. caps. uniloc.—many sp. and sections, the *C. helianthemum* L. is the main type. I have shown since 1813 that this name *quite identic* with *Helianthus*! could not be generic.

828. *STEGITRIS* Raf. diff. *Anthelis*, cal. 3phyl. equalis—thus as *Libanotis* from *Cistus*, types *St.* or *C. calicinus*, *algarviense*, *lasianthus*, *atriplicif.* &c.

829. *FUMANA* Raf. diff. *Anthelis*, caps. 3locul.—Types 1 *F. minor* Raf. *C. H. fumana* auct. besides *F. levipes*, *ferruginea*, *polifolia*, *canariensis* &c.

830. *XOLANTHES* Raf. 1810, diff. *Anthelis*, stam. 8-12, stig. sessile trifido vel trilobo, interdum fl. apetalis clandestinis,—Types *X. guttatus* and some other herbaceous sp. besides the next.

831. *Xolanthcs racemosa* Raf. car. p. 74, t. 18 fig. 1. Herb. ann. villosa, fol. sess. lanceol. 3nervis acutis, racemis term. ineq. incurvis. fl. nutantib—Mts. of Sicily, small annual plant, with small petals often abortive and thus apetalous, and calix hardly opening, although perfect stamens and seeds.

832. *HORANTHES* Raf. *Lecheoides* Dec. diff. *Anthelis*, stam. 12-20, stig. sessile—see my *New Flora* 549 for the distinctions of this and *Anthe-*

lis, it appears to include all the American sp. the other G. being foreign to America ; many sp. and I added 2. *H. podanisia* and *arenaria* 550, 551 All these G. have 5 petals, while *Lechea* chiefly differs by having only 3 thus *Hel. tripetala* of Mexico in my *Lechea mexicana*. In first vol. of my New Flora I have given a complete Monograph of *Lechea*, all plants, including 21 species, of 3 subgen. *Menandra*, *Lechea*, *Eudiea*, which see. Bosc says *Lechea* has petals 1 to 3 or none, 3 to 6 stamens &c.

833. *PSISTINA* Raf. diff. *Anthelis*, stylus elongato flexuoso, several sp. see *Decandole*.

834. *BENZOINA* Raf. cal. camp. 5dent. cor. campan. 5gona, 5dent. sericea, stam. 10 basi monadelphis, ovar. arist. stig. obt.—Type *B. vera* Raf, *Styrax benzoina* L. auct. It is said the *Terminalia benzoe* also produces Benzoin. *Styrax* differs by cor. 5fid not angular, stam. about 12 free, ovary 3loc. polysp. but ovules abortive except 1 to 3.

835. *LAURUS* L. many G. have properly been removed from this, *Persea*, *Sassafras*, *Cryptocarya* &c, but many others require revision, and I will indicate some N. G. *Laurus nobilis* deemed the type has cal. 4-8parted, stam. 8-14, fl. dioical &c, see 861.

836. *OZANTHES* Raf. (branch bloom) diff. *Laurus*, fl. dioicis, masc. 6part. stam. 15, fertiles 9, 6 opp. and 3 centralis, filam. planis, antheris adnat. biloc. 2 porosis valvularis, steriles 6 alt. ut glandulis pedunc. fl. fem. glandulis 3 sessilib. ovar. conico, stylo tereto. *Fol. alt. decid. fl. aggreg. invol. 4phyl. drupis nudis*—Type *Oz. benzoin* Raf. *Laurus* do L. auct. and perhaps some others of next. Flowers before leaves.

837. *EVOSMUS* Raf. (subg. Nut.) diff. *Ozan-*

thes, fl. polyg. umbel. fil. teres, antheris 4loc. Stam. ster. geminatis ad internis affixis &c.—Type *Laurus estivalis*, *diospyros*, *geniculata*.

838. **SASSAFRAS** Dec. diff. Ozanthes, Stam. ster. nullis in fl. masc. antheris ineq. 4locul. *fl. corymb. fol. lobatis*—Types *S. rubra* and *albida* once blended in *Laurus sassafras*.

839. **PERSEA** Plum. G. diff. Ozanthes, Stam. 18, steriles 9 ut glandulis ped. drupa carnosa, nux rugosa membrana involuta—Type *P. edulis* or *Laurus persea* L.

840. **BALANOPSIS** Raf. diff. *Laurus* cal. persistens cupularis integris . . . *fl. paniculatis herm.* very distinct G. by fruit like Acorn, fl. not yet well described, several types *B. or L. cassia*, and *cupularis*, this includes 2 blended sp. of Guyana.

841. *Balanopsis acuta* Raf. fol. ovatis utrinq. acutis, cupula truncata.

842. *Balanopsis elliptica* Raf. fol. ellipt. utrinq. obtusis amplis, cupula truncata.

843. **NECTANDRA** Rotb. diff. *Laurus*, cal. persistens turbin. basi fruct. cingens 6lobato, *fl. racemosis*—akin to last but different habit, 2 types both of Guyana.

844. *Nect. sanguinea* Raf. *Laurus* do Sw. auct.

845. *Nect. filiformis* Raf. bijuna Rotb. L. *surinamensis* W. auct.

846. **AJOVEA** Aubl. Raf. diff. *Laurus*, cal. concav. ineq. 6fid. dent. 3 alt. brevior, lac. 3 alt. petalif. Stam. 6fertiles, stigma 6fid. bacca uniloc—yet this very distinct G. was united to *Laurus*! Type *A. guianensis* Aubl. t. 120. *Laurus hexandra* Sw. auct..

847. **TRIPLOMEIA** Raf. diff. *Laurus*, cal. fruct.

vix tecto, stam. fertiles 3—Type *Tr. montana* Raf. *Laurus triandra* Sw. autct.

848. *DIPLIATHUS* Raf. (double cup) diff. *Laurus*, cal. persistens duplex, cupula ext. Glob. ineq. cupula interna integra.

849. *Dipliathus angulata* Raf. *Laurus* *Cervantesi* Kunth, ramis 5gonis, fol. petiol. obl. acum. obtusis, ped. axil. multifi.—tree of Mexico.

850. *ENDOCARPA* Raf. diff. *Laurus*, cal. tubul. persistens, 6fidus eq. stam. 12, steriles 3 int. glandulis 3 alt. drupa in cal. tubo baccato incluso.

851. *Endocarpa corymbosa* Raf. *Cryptocaria dubia* Kunth, fol. ovat. ellipt. obt. reticul. venosis glabris, corymbis axillaris—Tree of Bogota, not a *Cryptocaria* of R. Brown.

852. *CINNAMOMUM* Raf. diff. *Laurus*, fl. herm. cal. 6part. alt. ineq. stam. 9 *fol. oppos. 3nervis*—the Cinnamon Trees are not yet well distinguished, there are 5 at least, the flowers must be better described.

853. *Cinnam. angustifolia* Raf. fol. obl. lanc. panic. fol. brevior—large tree of Mindanao. Berneo &c, stem streight with green smooth bark, Wild Cinnamon.

854. *Cinnam. multiflora* Raf. fol. lato ellipt. panic. fol. longior—the broadleaf Cinnamon of Molucas.

855. *Cinnam. culiban* Raf. *Laurus* do L. fol. ovatobl. acute acuminatis subtus cinereis—Molucas &c.

856. *Cinnam. zeylanica* Raf. fol. ovatobl. obtuse acumin. subtus albescens, nervis canis—the real Ceylon kind.

857. *CAMPHORA* Raf. diff. *Laurus* fl. herm. cal. 6part. stam. 15, sterilia 6, fert. 9, antheris apice 4valvis ? *fol. alt. trinervis*—The Cam-

phor trees are also sadly blended and not distinguished, the flowers are figured in Jaquin, but I have not the work.

858. *Camphora vera* Raf. fol. ovatolanceol. baccis rubris—Sumatra, Borneo &c.

859. *Camphora japonica* Raf. fol. lato lanceol. baccis luteis.—Japan.

860. *Camphora angustifolia* R. fol. lin. lanceol. baccis rubris—Molucas.

861. *Laurus angusta* Raf. *L. nobilis* var. fol. lanceolatis planis—Sicily, Greece &c.

862. *Laurus nobilis* L. &c. fol. latolanceol. undulatis.—Real Bay tree.

863. *Laurus? ludoviciana* Raf. fl. lud. 71. arboreus, fol. petiol. obl. subtus glaucis, fl. panicul. baccis nigris—Louisiana, tree 30 to 40 feet high, evergreen. Forming a subg. *MUSTAX* by fl. white 5parted? perhaps other characters in flowers, and a real Genus.

864. *DAMBURNEYA* Raf. (bot.) diff. *Laurus* fl. herm. cal. colorato rotato subeq. 6part. stam. 6 fertil. nectarium 3fido ovar. cingens. *fol. peren. fl. panic.*---Type *D. maritima* Raf. *Laurus catesbei* Mx. auct. fl. white, berries black, small shrub.

865. *TAMALA* Raf. (n. ind) diff. *Laurus* fl. polyg. cal. ineq. 6part. lac. alt. internis duplo major, stam. 6 fert? 6 steriles, fruct. basi cal. persistens baccans. *Fol. peren. alt. uninervis, pedunc. multifl.*---several types once blended in *L. borbonia*.

866. *Tamala borbonia* Raf. arborea, fol. amplis lanceol. subt. pubesc. ped. corymbosis, drupis aureis---Antilles.

867. *Tamala carolinensis* Raf. arborea, fol. ovato lanceol. supra lucidis, subtus glaucis glabrusc. coriaceis, drupis ceruleis---Carol. Flori-

da, fifty feet high, flowers pale yellow.

868. *Tamala palustris* Raf. frutesc. fol. lanceol. subtus pallidis pubescens, pedunc. paucifl. fascicul. drupis ceruleis—Shrub 8 to 10 feet high, with the last, but in swamps.

869. *Tamala acuminata* Raf. Arborea, ramulis, ped. pet. et nervis rufis pubescens, fol. longe lanc. basi acutis, apice acum. obt—Louisiana and Texas, tree 30 feet high, leaves 5 to 8 inches, fl. whitish, seen dry.

870. *LINDERA* Th. auct. cal. 6part. stam. 6 epigynis! ovar libero, stylo, stig. 2 refl. caps. 2loc. *fol. alt. fl. umb.*—Altho' akin to Laurels, this G. belongs to my *MEBORIDES* by stamens and fruit, it is also akin to *Lerchea* L. by pistil, but this has a corolla not staminif. as *Ericoides* and united stamens.

871. *Lindera umbellata* Th. ramis flex. fol. pet. ovatoobl. integris subtus villosis, umb. term.—Shrub of Japan.

872. *KNEMA* Lour. dioica, fl. m. cal. col. 3fid. filam. unico, antheris 10-12ferens, fl. fem. cal. trunc. pers. stig. sessile dent. bacca mollis monosp. arillata, *fol. alt. fl. panic*—probably of *LAURINES* family, although akin to some monosperm *Euphorbides*.

873. *Knema bicolor* Raf. fol. pet. lanc. grabris integris—large tree of Anam, flowers brown outside. orange inside, berries red.

874. *LINOCIERA* Schr. diff. *Chionanthus*, stam. 2 basi coalitis, bacca 2loc. 4sp.—Type *L. ligustrina* Raf. *Thouinia* do Sw. *Chion.* do Pers. &c, fol. lanc. panic. term—Shrub of Jamaica,

875. *TETRAPILUS* Lour. cal. camp. 4fid. cor. camp. 4sulc. 4fida lac. concavis, stam. 2 brevis, stig. bif. bacca biloc. polysp. *fol. opp. fl. spic. dioicis*—akin to last and *Ligustrum*.

876. *Tetrap. axillaris* Raf. fol. ovato lance. subdent. spicis axil—Shrub of Anam.

877. *Ireon* Burm. Bosc. cal. 5part. pers. petalis 5, stam. 5, antheris gibbosis, stylo tereto, stig. 3fido, caps. 3gona 3loc. 3valv. *Fol. subvert. fl. term.*—akin to *Clethra*? habit unlike.

878. *Ireon ciliatum* Raf. arbusc. fol. subul. ciliatis glandul. fl. term. 3-6—small shrub of South Africa.

879. *Kandena* Rh. Bosc. Raf. cal. 4fid. stam. 4 inclusis, stylo, stig. capit, bacca uniloc. nucib. 2. *Fol. opp. ternisque, fl. racemosis.*—Of doubtful affinities, perhaps akin to the RHAMNIDES or CELASTRIDES.

880. *Kandena spinosa* Raf. (Rheed 5. t. 36) fol. petiol. ovatis integris acutis, spinis axil. rectis, racemis axil. fol. brevior—evergreen tree of Malabar.

881. *Nevrilis* Raf. *Millingtonia* L. fil. Sm. non Don Br. diff. *Bignonia* and *Hieranthes*, cor. tubul. gracilis bilab. galea bifida, labio 3part. lobis eq. reflexis trinervis. Siliq. recta compressa, sem. alatis. *fol. opp. tripinnatis, fl. panic*—very near *Hieranthes* by corolla, perhaps same G. if stamens similar. *Millingtonia* has been applied since to a G. near *Indigo tera*.

882. *Nevrilis suberosa* Raf. Bign. do Roxb. cor. t. 214. *Millingt. hortensis* L. fil. Sm. foliol. ovatis acutis glabris, panic. trichot.—Fine tree of India, 30 feet high, bark suberose, fl. white fragrant 2 inches long, pods acute one foot long.

883. *THEAPHYLA* Raf. 1830. *Thea* L. auct. lately united to *Camelia*! *Thea* meaning Goddess in Greek is included in *Althea* and other G. my name meaning *divine leaf* was formed since 1815 and published 1830 in med. fl. It differs from *Kemelia* (wrongly spelt *Camelia*) by cal.

3-6part. non imbric. petalis 5-9 ineq. basi coalitis, stam. 200 liberis, stylis 2-3fid. caps. 2-3cocca —sp. not yet well settled.

884. *Theaphyla laxa* Raf. *Thea chinensis* Dec. ramis laxis, fol. ellipt. acutis rugosis serratis, pet. sepe 6---China.

885. *Theaphyla lanceolata* Raf. *bohea* L. ramis strictis, fol. lanceol. levis acut. serratis, fl. axil. 1-2 pet. 6---China.

886. *Theaph. viridis* R. fol. lato lanceol. levis ac. subferr petalis 8-9---China, Japan &c.

887. *Theaph. euryoides* R. *Camelia* do bot. reg. 983. ramis debilis pilosis, fol. ovato-lanc. acum. subserrat. subtus sericeis, fl. solit. ped. squam, cal. 5p. pet. 5---China.

888. *Theaph. cantoniensis* R. Lour. fol. lanceol. fl. term. solit. cal. 5-6p. pet. 7-9---Suchong Tea of South China,

889. *Theaph. anamensis* Raf. fl. term. solit. cal. 3part. pet. 5---Anam, perhaps a subg.

890. *Theaph. oleifera* R. Lour. ped. 3floris, axil. cal. 6part. pet. 6---Oil-tea of South of China, compare with 898. Fruit yellow baccate akin to 900.

891. *KEMELIA* Raf. *Camelia* L. auct. ut *Camelina* and *Camelus*! ad bot. *Kemel* dedic. diff. *Theaphyla*, cal. 5part. ineq. imbric. petalis pluris imbricatis, stam. plura 50 basi monadelphis, styl. ineq. 5fid---single type. but 3 G. have been blended.

892. *Kemelia japonica* Raf. auct. fol. obl. lan. acum. serratis, fl. solit. cal. ovatis, petalis concavis---Japan, Luzon &c, many floral var. in gardens.

893. *Desmitus* Raf. diff. last, cal. colorato, stam. polyadelphis 4-5fasciculis, ovario sericeo.

894. *Desmitus reticulata* Raf. *Camel.* do

bot. reg. 1978, b. mag. 2784. fol. obl. acum. reticul. planis, petalis undul. obovatis—China, fine sp. rose flowers.

895. *SASANQUA* Raf. (n. chin) diff. *Theaphylla* and *Kemelia*, cal. polyphylus imbricatus, petalis pluris fissis, stam. submonadelphis.

896. *Sasanqua odorata* Raf. *Camelia susanqua* L. auct. fol. ovatobl. crenatis fl. term. subsolit. cal. conc. petalis obcord.—China &c, small fragrant flowers.

897. *Sasanqua malliflora* Raf. Cam. do Curtis 547. fol. obl. emarg. crenatis, pet. conc. emarg.—China, much larger flowers.

898. *Sasanqua oleifera* Abel. b. reg. 942. fol. ellipt. acutis serrat. cal. deciduis, petalis angustis bilobis—China, deviating by the calix not persistent although imbricate.

899. *Sasanqua ochroleuca* Raf. Cam. axillaris Roxb. b. reg. 349. fol. cuneatis serrul. acutis crassis coriaceis, fl. axil. solit. ped. cal. 5-6ph. sericeo, petalis obov. bilobis,—Tree of the Sunda Ids, fl. ochroleucous.

900. *DRUPIFERA* Raf. diff. *Kemelia stylo* 4fid, fruct. drupaceo nux 4locul.—How are flowers? Type *Dr. oleosa* Raf. *Camellia drupifera* Lour. auct. fol. ovatobl. subcren. fl. term. 2-3—Anam. The 3 Oil Seed Tea Shrubs must be compared.

CENTURIA X.

901. *CITRUS* L. this appears a natural G. if *C. trifoliata* be excluded; but the sp. and var. are numerous, not well distinguished and like so many domestic trees in great perplexity, Dutoir, Risso, Buchanan, Loureiro &c have mentioned over 100 varieties, several so striking as to be specific deviations: having seen many alive I mean to indicate some of these real new species.

902. *Citrus heterophylla* Raf. petiolis alatis, fol. biformis, inf. obovatis, superis lanceol. omnis acutis integris sepe albo marginatis, fruct. levis subrot. dulcis—Native of Tartary, often called Turkish Orange.

903. *Citrus salicifolia* Raf. pet. alatis, fol. omnis angusto lanceolatis acutis—Is it a var. of the last? or of *C. sinensis*?

904. *Citrus myrtifolia* Raf. pet. alatis, fol. imbric. ovatis acutis subserratis—the Myrtle Orange has small bitter fruits and short strong thorns. China.

905. *Citrus rotundifolia* Raf. ramulis albis, pet. alatis, fol. subrot. integris, nonulis undulatis, fr. globoso—called *Poncire* in French, all Orange trees have green twigs except this, several var. *undulata*, *violaceo* &c.

906. *Citrus cedratus* Raf. pet. vix alatis, fol. lanceol. acutis subdenticulatis, fr. ovoideis verrucosis cortice crassa pulpa insipida.—The Cedrats (or Citrons) are quite different from Oranges, nearer to Shadocks, fruits large with yellow thick rough rind, pulp sweetish without flavor. Several var. *inermis*, *melarosa*, *syriaca*, *italica*.

907. *Citrus bergamota* Raf. pet. subalatis, fol. ellipt. acutis, fr. globosis levis odoratis pulpa

insipida—The Bergamots are quite different from Cedrats yet trees nearly alike, leaves and fruits smaller, these with a thin fragrant rind. several varieties.

908. *Citrus Karna* Raf. pet. lato alatis fol. cuneatis obovatisque acutis, fruct. pyriformis scaberrimis, utrinque acutis, pulpa acida—very peculiar kind of India, called Karna, the acid juice has fine flavor. Buchanan deems it near the *Limo taurinus* of Rumph.

909. *Citrus costata* Raf. pet. subulatis, fol. ovatis retusis emarg. fruct. turbinatis basi acutis, apice mamillaris, cortice crassa costata, pulpa acida—Kalamba or Kolombok of India, wrongly blended with *C. decumanus*, very thick ribbed rind and fine acid juice. Authors mention costate Bergamots and Oranges which may be var of this.

910. *Citrus gongra* Raf. pet. alatis, fol. ovatis dentatis, fruct. globosis scabris, pulpa acida—India, fruit like an apple with thin rind, called Gongra in Bengal.

911. *Citrus combara* Raf. pet. dilatato alatis, fol. subrot. crenatis, ad pet. subequalis—singular sp. with strong thorns and petiols nearly similar to leaves in size and shape, called Combara in India.

912. *Citrus fusca* Lour. petiolis alatis obcordatis, fol. lato lanceol. fr. glob. scabris 8-9loc. pulpa amara—large tree of Anam with long thorns, fruits fuscate.

913. *Citrus fusiformis* Raf. pet. linearis, fol. lanceol. utrinque acum. fruct. fusiformis, pulpa acida---this begins the series of Lemons with unwinged petiols. Several var. *parva*, *challi*, *perretta* &c.

914. *Citrus obovata* Raf. pet. linearis, fol.

obovatis obtusis, fr. subglob. pulpa dulcis---the sweet Lemon, with several varieties.

915. *Citrus granulata* Raf. pet. lin. fol. ovatis granulatis acum. fruct. granulato---granular Lemon. India like all Lemons.

916. *Citrus tima* Raf. pet. lin. fol. ovat. glabris acum. fruct. subrot. cortice levis tenuis, pulpa acida---the Limes or small round Lemons have many varieties, *undulata*, *palustris*, *longifolia*, *magna* &c. but some striking var. must be examined well and may be sp. such as *undulata*, *costata*, *cucurbita*, *mamillaris* &c, compare the *Pati* of India with fruits like an Apple, but with a nipple like Lemons, also *Kaki* of India with fruit like an egg; but if with winged petioles akin to *C. gongra*.

917. *Citrus nobilis* Lour. pet. lin. fol. lanc. fl. racemosis, fruct. glob. tuberc. dulcis---China, branches erect thornless, fruits red, rind thick, excellent fruit.

918. *Citrus madurensis* Lour. frutex, ramis patulis angul. inermis, pet. lin. fol. lanc. fr. glob. pulpa amara---small shrub of China, Anam, Madura, flowers and fruits very small.

919. *Citrus margarita* Lour. frutex, ramis rectis spinosis, pet. lin. fol. lanceol. fr. ovalis 5locul. pulpa dulcis---Shrub of China, small fruit, thin rind orange color.

920. *PONCIRUS* Raf. diff. *Citrus*, Stam. liberis, fr. 7locul. fol. trifoliatis---Type *P. trifoliata* R. *Citrus* do L. auct.

921. *MALNEREGA* Ad. Raf. diff. *Citrus*, cal. 4dent. pet. 4, bacca uniloc. monosp.---Type *M. malabarica* Raf. fig. in Rheed 4 t. 12, habit quite like *Citrus*.

922. *ZONABLEPHIS* Raf. (ring cil) cal. 4part. ineq. variabilis, cor. tubo urceol. intus annulus

fimbriato stam. ferens, limbo unilab. 5lobo, stam. 4 didyn. arcuatis, antheris connexis, ovario villoso, stylo apice glabro furcato, caps. ut *Acanthus*? *Frutic. fol. opp. fl. spicatis*—very unlike *Acanthus* to which united.

923. *Zonablephis polistachya* Raf. *Acanthus* do Del, Cailt. 72 f. 2. Ramulis teretis, fol. sess. ovatolanc. acut. dentato undul. spicis term. imbric. 4gonis, bract. ternis ciliatis, 2 subul, infera 5nervia---shrub of Nubia, leaves 6-12 inches pubescent beneath, fl. rosate, calix very unequal in shape and size of segments. This and the following till 934 are new trees and shrubs discovered with 100 rare plants by Caillaud in Nubia and Central Africa, near the Western Nile, described and figured by Delile, in his travels, but squeezed in akin Genera.

924. *KERINGA* Raf. (n. afr.) diff. *Vernonia*, per. duplex, imbric. ext. brevior, phorantho nudo poroso, akenis 15-20 turb. arcuatis 10nervis, apice apiculatis, pappus 20-30 setis denticulatis *Arborea, fol. alt. fl. sub panic*—certainly not congeneric to our American herbaceous *Vernonias*.

925. *Keringa amygdalina* Raf. *Vernonia* do Del. Cail. Ramulis gracilis fol. subpet. lanceol. subintegris, panic dichotomis, perianth. ext. linearib. ext. subrot—tree of Central Africa, called *Kering*, leaves 5 or 6 inches, flowers white.

926. *PLEUROMENES* R. (side lun) diff. *Acakia*, Leg. spongiosis evalvis variabilis, ineq. obl. gibbosis vel strictis, vel arcuatis, vel globosis, vel pyriformis, sem ovoideis lucidis, utrinque latere macula lunulata. *Fol. bipin. fl. spicatis*—this G. must be added to my Series of *Acakia* after 756, the flowers must be described, but the pods are quite peculiar and strangely multiform.

927. *Pleuromenes heterocarpa* Raf. Acakia do Del. ramulis pubesc. acul. fol. pinnis 5jugis, foliolis 12-15jugis ovalib. dimidiatis subt. pubesc. spicis teretis axil---Syria, Egypt, Nubia, called Gilgil by Arabs.

928. *ELAYUNA* Raf. (n. arab), diff. Bauhinia, leg. obl. evalvis, multiloc. loculis polysp. extus cortice dura nervosa, intus midula fibrosa. *fol. bilobis*,---very peculiar pod, leaves not binate, flowers undescribed but long account of seeds, certainly not a Bauhinia.

929. *Elayuna biloba* Raf. Bauhinia tamarindacea Del. pl. C. 13. fol. orbic. basi cord. apice bilobis sinus cuspid. petiolis glandulosus—shrub of Mt Aqaro in Central Africa, called Elayun and Magal.

930. *TRIDERMIA* Raf. (3 skins) diff. Grewia, Drup. basi umbil. apice 4lobo, nucibus 4, transverse 3loc. 3sp. sem. obov. compr. triplice tunicis vestitis—very peculiar fruit, see the long description, but flowers omitted, yet certainly distinct Genus.

931. *Tridermia papillosa* Raf. Grewia echinulata Del. pl. C. 70. Arboreus, fol. orbic. cord. crosis 5nervis retic. fl. extrax. umbellulatis, drupis glob. depr. papillosus—tree of Nubia, twigs glandular, hairs fasciculate on them, petiols and leaves &c.

932. *XEROPETALON* Del. cal. duplex persistens ext. 5fid. int. 5part. rotato petaloideus, stam. 20 basi monad. 5filam. longior sterilis, ovar. glob. tom. styl. brevis, stig. 2-3spiralis, caps? 2-3loc. 2-3valvis septiferis 2-6sp. *racemis ramosis*—G. based on flowers alone, without leaves! akin to last, singular by persistent petals! thus rather internal perigone. Type *X. 5setum* Del. pl. C.

71. Shrub of Nubia, flowers in racemose umbellules. Hardly of Tiliacea tribe.

933. *SEMARILLA* Raf. diff. Celastrus, cal. minimus pers. 5dent. caps. turbin. sub4gonal, 2loc. 2valv. septif. 4sp. sem. arillatis, arillo cupularis carnosus sinuoso vestita—apparently a distinct G. also by cells not equalized to calix, probably 5 petals and 5 stamens.

934. *Semarilla bicolor* Raf. Celastrus do Del. pl. C. 94. fol. obov. serrul. fl. axil. subumbel—Shrub of Nubia.

935. *TRIXANTHERA* Raf. diff. Ruellia, stam. exertis, antheris pilosis, caps. 4sperma. *Arboorea fl. panic*—at least a subgenus.

936. *Trixanth. angularis* Raf. Ruellia? gigantea Kunth. Ramis 4gonis, fol. subrot. ovat. acum. nervis hirtis—tree of S. America.

937. *PENTELESIA* Raf. diff. Bignonia, stam. 5 fertiles . . . fruct . . . *frutex recto, fol. tern. fl. panic*—another G. to be added to the Bignonias, out of Kunth, who has 24 sp. undescribed as to flowers and fruits altho' mostly new and involving many G. or referable to mine: this has a very peculiar habit also.

938. *Pentelesia discolor* Raf. Bignonia caricachensis Kunth. Recta glabra, foliolis 3 obl. obt. subtus albis, panic. sessilib—Oronoco shrub.

939. *ARAGOA* Kunth. cal. 4-5ph. cor. hypocr. 4fida, stam. 4, stig. glob. caps. 2loc. 4valv. 8sp. *Ramis opp. fol. imbric. 8faris, fl. axil*—united to *SESAMIDES* by K. 2 types *A. cupressina, abietina*.

940. *JURGENSIA* Raf. (bot) diff. Spermacoce, cal. infund. 4fido, cor. infundib. 4fida, stam. 4. *Frutic. fl. capit*—Decandole and Kunth have blended *Diodia* and *Spermacoce* by promiscuously mixing the sp. with bifid or 4fid calix, cor.

hypocr. camp. or infund. These G. require a new revision; most of those with infund. calix and corolla will belong here.

941. *Jurgensia psyllioides* Raf. Spermac. do Kunth, caule suffrut. 4gono, fol. lin. lanceol, serrulatis, fl. capit—Mexico.

942. *PLEUREIA* Raf. diff. *Psychotria*, cal. spathaceo cuculato latere fisso, *Flor. corymb.*—*Psychotria* and *Calicoca* contain also a crowd of anomalous sp. requiring revision, with 4 or 5 stamens, various calix, corolla, fruit &c, and to make the matter worse some propose to join thereto *Cephaelis*, *Evea*, *Patabea*, *Tapogamea*, *Smirus* &c.

943. *Pleureia compressa* Raf. *Psychotria calycina* Kunth, frutic. ramis compr. fol. obl. lanc acum. corymbis ped. 3floris—S. America.

944. *IPECACUANA* Raf. cal. 5dent. cor. tubul. intus villosa, limbus 5fid. revol. stylo ad basi annulato, stig. 2, bacca coronata uniloc. 2sp. *florib. comp. perianthis 4phyl. ineq*—Type the real officinal root *Ipec. fusca* Raf. *Calicoca ipec.* Brotero, auct. *Cephaelis* and *Psychotria emetica* auct.

945. *TAPOGAMEA* Aubl Vitm. &c diff. cor. faux ventric. limb. patens, disco ovar. bigland. *perianth. 5ph. phorantho paleaceo*—Aublet had 5 sp.. 2 were shrubs *T. tomentosa* and *glabra*, 3 plants *T. violacea*, *purpurea*, *alba*. Many more are mixt in *Cephaelis*.

946. *CARAPICHEA* Aubl. Vitm. &c diff. cal. turb. cor. infund. 5fid. acuta, stam. exertis, disco supra ovar. styl. bifidus, capsula 2loc. 2partib. 2sp. *Perianth. 4ph. 2 major ext*—very distinct by fruit: name rather too barbarous, I propose *Nettlera* instead. Type

947. *Carap. or Nettlera guianensis* A. V.

R. *Cephaelis* ? *involucrata* auct. shrub of Guyana, flowers white.

948. **SIMIRA** Aubl. Vit. &c diff. 946. cor. tubul. stam. in tubo, bacca biloc, 2sp. *fl. racemosis*—very peculiar G. also. near to *Bertiera*.

949. *Simira tinctoria* A. V. *Psychotria parvifl.* W. P. &c? Tree of Guyana, white flowers not capitate nor involucrate.

950. **URUPARIA** A. V. *Agylophorus* Neck. diff. cal. tubul. cor. hypocrat. stig. capit. bacca 2loc. *polysp.* *Frut. sarment. fl. capit. nudis.*

951. *Urup. versicolor* Raf. *guianensis* A. V. fol. pet. ovate acutis---Vine of Guyana, flowers fragrant, white or green or red or yellow or brown on the same stem, a very strange peculiarity.

952. **RONABEA** A. V. diff. cor. tubul. ventric. stig. 2 lamel. drupis uniloc. nucleis 2 conv. plana striatis *fl. axil. sess---*Types 2 shrubs of Guyana *R. latif.* and *erecta*, united to *Psychotria* by many as *B. axillaris*! some peruvian sp. perhaps belong here, such as *Ps. gracilis* with sulcate seeds, creeping plant, flowers umbellate, thus habit very unlike, perhaps a Genus *Sulcanux* Raf.

953. **PALICURIA** A. V. *Smirus* Jus. *Stephanium* Schr. admitted as a subg. by Persoon, a G. by Kunth &c, many sp. 11 in Kunth.

954. **MYRSTIPHYLLA** Raf. diff. *Psychotria* bacca uniloc. dicoca vix succosa, *racemis ramosis---*Type *M. rigida* Raf. *Psych. myrstiph* auct. Antilian shrub.

955. **PATABEA** A. V. cal turb. 4dent. cor. fusif. 4fid. stam. 4, styl. bifidus, stig. 2. *fl. capit. bract, phorantho squam. paleaceo---*Near to *Evea*, which differs by cor. infund. stig. single bilobe, a perianthe &c.

956. *Patabea guianensis* A. V. ramis nodosis 4gonis, fol. petiol ovatobl. capit. axil, pedunc ---shrub, many other G. are hidden in Psychotria and akin Genera, *Nonatelia*, *Bubalina* &c.

957. *Adansonia integrifolia* Raf. Ophelus Lour. fol. petiol. obl. acut. integris glabris---tree of East Africa, with large white flowers and fruits.

958. *SETHIA* R. diff. *Erythroxyton*, cal. 5lobus, stylus simplex, stig. 3fidum---Type *S. indica* Raf. Er. monogynum Roxb. &c. These 2 G. are types of a new family near Malpighides and Hypericines by fruit monosperm. *ERYTHROXYLIDES* Kunth.

959. *CASEARIA* auct. 28 sp. in Kunth, who wrongly unites thereto *Anavinga*, *Chetocrater* &c, requiring revision. The true *CASEARIA* Raf. has cal. 5fid. cor. 0, stam. 8-10 basi ladelphis, stig. 1, caps. 3-4valv. septif. uniloc. polysp. sem. baccata. All trees.

960. *ANAVINGA* Raf. diff. cal. 4fid. stam. 6 &c.---Types A. ilicif. comocladif. &c all *Casearias* in Kunth.

961. *CHETOCRATER* Raf. diff. cal. 4fid. stam. 12-15, stig. 3. Types C. javitensis, tinifolia, hirta &c.

962. *FOUQUIERA* Kunth, cal. 5ph. cor. tubul. arcuata 5fida, stam. 10-12 hypog. non epicorollis, styl. 3fidus. *Fl. spic. bract*---wrongly united to Portulacea by Kunth, evidently akin to *Clethra* and *Clethrises* subfam. of *ERICOIDES* with next G.

963. *Fouq. formosa* R. frutex subspin. fol. alt. integris carnosis, spicis term. sess. bracteatiss---fine shrub of Mexico with incarnate blossoms.

964. *BRONNIA* Kunth, diff. 962, cal. ineq.

caps. 3gona, 3locul. sem. alatis, *fl. panic*---same family of course.

965. *Bronnia spinosa* R. arborea glabra spinosa, fol. fascic. integris, panic. term.---Tree of Mexico.

966. *POLYLEPIS* R. P. Kunth. cal. turb. 3dent. pet. 0, stam. 5 perigynis, styl. 1, stig. multif. akenae monosp. *Fol. tern. fl. racem.*—This G. with next, *Sanguisorba*, *Cercocarpus* and akin, belong to my family *GONOLIGIA* of 1815. Type.

967. *Polylepis incana* R. P. foliolis 3 crenatis subtus canis, racemis axil. paucifl.—shrub of Popayan.

968. *QUINASIS* Raf. diff. 966, cal. 4dent. stam. polyandris.

969. *Quinasis villosa* Raf. *Polylepis* do Kunth. foliolis subtus villosis, racemis multifl.—large tree of Peruvian Mts.

970. *SPIREA* L. auct. this G. became the type of my family *SPIRADIA* since 1815, now greatly increased since *Kagenekia*, *Quillaja*, *Vauque- linia*, *Lindleya* &c have been united to this family; but *Spirea* itself included many G. as I stated and proved again in my *New Flora*: altho' mostly shrubs yet they include plants also, Without revising the whole family I shall now indicate some of these peculiar G. or subgenera.

971. *SPIREA* Raf. cal. camp. 5fidus, pet. 5. stam. multiserialis, inserta ad disco annularis crenato, caps. 5 liberis sub. 9 spermis. *Fol. simpl. fl. racemis panic*—Types *Sp. salicif.* and blended sp. my *Sp. flexuosa*, *amena*, *ovata carpinif. heteroph. ciliata* see 641 to 647 *New Flora of North America*, where I gave a monograph of shrubby kinds.

972. *ELEIOSINA* Raf. (is smooth) diff. stam. 20

unica series, glandulis 10 per paria ad cal. oppos. pist. 5, styl. sepe clav. stigm. obt. vel capit. caps. 5-8sp. *corymbis panic*—Types *Sp. levigata* now forming my 3 species *bracteata*, *cuneifolia*, *altaica* 649 to 651, besides my *obovata* 648, 548, *virgata* 666, and *Sp. triloba* &c.

973. DRIMOPOGON Raf. 1815, subg. *Spirea*, cal. reflex. villosis, stam. 20, disco annularis integro, stig. sess. truncat. caps. 5 villosis 10sp.—Types the *Sp. tomentosa* and akin my *rosea* 636, *feruginea* 637, *glomerata* 638, *parvifolia* 640, besides *Sp. douglasi* and *menziesi* &c.

974. XAMEDRYON Raf. subg. of *Spirea* diff. cal. nervosus, stam. 50, pist. 7, caps. 12sp. *fl. umbel. vel corymb.*—This according to Kunth is the character of *Sp. ulmaria*, but many akin have 5pistils, compare my *sp. chamedrif. versifolia*, *betulif. ostryfol. corymbosa*, *repens*, *crenata*, *denticul.* 654 to 663 of my N. Flora.

975. AWAYUS Raf. diff. *Spirea*. cal. prof. 5fid. petalis emarg. &c. Type *Sp. japonica* Raf. 664, a subg. also? The *Spirea barbata* of Wallich and Lindley deemed the *Japonica* by some is not even a *Spirea*, but a *Blondia* of Necker of Saxifragides tribe, see fl. tel. 279.

976. PHYSOCARPA Raf. diff. *Spirea*, cal. prof. 5fid. discus 0, stam. 30, pist. 3, stig. capit. caps. basi coalitis inflatis 2-4sp. *fol. lobatis fl. racemis corymb. bracteatis*—Types my *Phys. riparia*, *opulifol.*, *tomentosa* 668 to 670.

977. EPICOSTORUS Raf. diff. *Spirea*, cal. 5lob. disco annularis, stam. 20 basi monadelphis, pist. 1-2 stylosis, stig. capit. caps. 3sp. *fol. lob. racemis corymb. nudis*—Type my *Ep. montanus* 671.

978. SCHIZONOTUS Raf. diff. *Spirea*, cal. rotato,

discul. annul. stam. 20, pist. 5 eq. caps. sess. tom. monosp. *Fol. lob. fl. panic.*—Type *Sch. discolor* 673.

979. *BASILIMA* Raf. diff. *Spirea*, cal. patens 5part. discus 0, stam. 15-20 ad basi cal. pistilis 4-5 sess. caps. 4-5 ineq. sess 1sp. *fol. pinnatis, fl. panic corymb. bracteatis*—Types my *B. sorbifolia* and *pygmea* 675, 676.

980. *SERICOTHECA* Raf, diff. *Spirea*, stam. 20 caps. sericeis 2sp.—Type *Sp. argentea* Kunth of S. America.

981. *GILLENIA* Mœnch &c, diff. pet. angustis, stam. 20, pist. 5, stylis teretis, stig. papilloso, caps. 2sp. *Herbac. fol. trif. stipul. fl. term.*—Types *G. trifoliata* and *stipulacea*.

982. *ARUNCUS* T. auct diff. dioica, stam. 20, disco annul. integro, pist. 3, caps 3sp. *Herbac. fol. decomp. fl. spicis ramosis filif*—Type *A. vulgaris* and *Americanus*.

983. *FILIPENDULA* T. auct. diff. polyg. cal. 7fid. stam. 50-60, fascicul. 3-4, discus 0, pist. 10-12 styl. brevis refl. stig. capit. caps. 2 sp. *Herb. fol. pinn. fl. panic*—Type *Sp. filipendula* and akin.

984. *THECANISIA* Raf. *Ulmaria* T. diff. cal. 4-5fid. refl. discus 0, stam. 12-24 polyadelphis, pist 3-8 stipit. ineq. caps. 1-3sp. *Herb. fol. palm. fl. panic*—Types *Sp. ulmaria* and akin *palmata, lobata, purpurea, angustif.* &c see my new fl. 293 to 296. I have chiefly followed the account of Kunth as to many typical characters; but I apprehend the whole *G.* requires yet a total revision, and has other anomalies reducible to good *G.* my *Rhodalex* of 1815 has the calix unequal and foliose as in *Roses*.

985. *STEMOTIS* Raf. (stam. auric) diff. *Rhododendron*, cal. planus 5dent. cor. basi 5gibbosa

ut *Kalmia*, ineq. 5loba, stam. 10 ineq. declin. 5
5alt. append. stylo declin stig. capit. 10radiat.
caps. 10locul. 10valv. *Arboreis*, fl. capit—
beautiful G. very peculiar, several types blended
in Rh. arboreum.

986. *Stemotis coccinea* Raf. Rhod. arb. Sm.
ex. bot. 9. bot. reg. 890, fol. lanceol. supra gla-
bris, subtus toment. albis—tree of the Himalaya
Mts. like all the others, fl. scarlet.

987. *Stemotis rosea* Raf. Rh. arb. var. ro-
seum Lind. b. reg. 1240. fol. obl. cuneatis mu-
cronatis glabris subtus ferrugineis—flowers rose
color. a var. with large red flowers is figured b.
reg. 1414, b. mag. 8423.

988. *Stemotis alba* Raf. Rh. album Don,
Sweet t. 148. arboreum v. album b. mag. 3290.
fol. obl. lanc. acutis supra nitidis, subtus pubesc.
ferrug.—large tree of Nipal, flowers white with
some purple dots, some lobes emarginate.

989. GUERSENTIA Raf. (bot.) diff. Chrysophy-
lum, cal. persistens 4-6part. cor. camp. 4-6loba,
stam. 4-6, stig. subsess. 4-6lob. drupis olivef. non
costatis, nucleis 1-2—3 types at least, called
Date-apple, while Chrysophyllum is the Star-ap-
ple, all tropical trees with edible fruits. If Guer-
sent had a G. substitute *Dactimala* R.

990. *Guersentia oliveformis* Raf. Chr. do
Lam. monopyrenum Sw. auct. bot. mag. 3303.
Perhaps several sp. blended here, the G. or Chr.
microcarpa is certainly peculiar, and G. or Chr.
angustif. is a 3d sp. with 2 seeds sometimes.

991. ATUNA Raf. cal. 5 sepalis petalif. pet.
nullis, stam. pluris, pist. simplex libero. akena
dura nucifera monosp.—Type A. *racemosa* Raf.
alt. lanceol. racemis term. tree of Molucas, Atun
of Rumf. 1 t, 66, wood hard but brittle, nut spicy

as large as an egg, near *Hesperides*, see next.

992. *AYPARIA* Raf. cal. 5 sep. petalis 5, stam. pluris, pist. simpl. lib. akenae nuciferae intus nucleus trivalvis monosp.—G. akin to last and to *Vateria*, perhaps forming a peculiar tribe with the monosperm *Hesperides*, *Ximenia*, *Eleocarpus*, *Vateria* &c to be called *VATERIDES*.

993. *Ayparia crenata* Raf. *Ayparthus* Rumpf. 3 t. 104. fol. alt. lanceol. crenatis, racemis axillarib—tree of Molucas with annual leaves, flowers small and white, fruit black spotted of white.

994. *CURONDIA* Ad. Bosc. Raf. diff. *Atuna*, drupis monosp. fol. oppos. fl. axil—another akin G. of *Vaterides* tribe.

995. *Curondia axillaris* Raf. *Curondi* Rh. 4 t. 50, fol. sesil. ovato-lanc, undulatis crenatis, axillis multifloris—large tree of Malabar, flowers small. greenish yellow, berries round purple. flesh soft saffron color, kernel globose, leaves astringent medical.

996. *LEDELIA* Raf. (bot) diff. *Pomaderis*, cal. adherens 5fidus, pet. nullis, stam. 5 cal. alternans, fil. filif. inflexis, stylo, 3gono stig. 3, caps. infera 3locul. fl. capit. involucratis—very distinct G. since *Pomaderis* including the Asiatic sp. of *Ceanothus*, has calix free camp. petals 5 &c; nearer to *Guania*, and of family *GUANIDIA* see fl. tel. 268.

997. *Ledelia betulina* Raf. *Pomad.* do Hook. b. m. 3212, fol. alt. petiol. ellipt. obt. subtus ferrugineo lanatis, bract. ovatis, cal. villosis—Australian shrub with yellowish flowers.

998. *TUBANTHERA* Com. R. diff. *Ceanothus*, petalis 5 basi coalitis in tubo, stig. 3 subsessil.—Type *T. katapa* Raf. Rh. 5 t. 47. fol. alt. pedunc. axil. multfl.—Shrub of Malabar.

999. *MAROTTIA* Rh. Bosc. Raf. cal. 5sepalis, pet. 10 in duplice series, internis major concavis villosis, stam. 5 villosis, pist. simplex. drupis glob. siccis scabris, nux dura intus pulposa polysp. sem. angul. *fol. alt. fl. axil*—family of *BERGERIDES* including the *Guttiferes* and *Hesperides* with definite stamens, such as *Chalcas*, *Bergera*, *Muraya*, *Quapoya* &c and perhaps type of a subfamily by singular fruit.

1000. *Marottia oleosa* Raf. Rh. 1 t. 58 fol. ovatis dentatis lucidis. axillis multifl.—Tree of Malabar, fl. red outside, seeds affording a sweet Oil.

APPENDIX.

Such is the vast field of botanical researches and reforms, that these series of revised trees and shrubs although amounting to 1000 articles, are but fragments of what might be done and is yet required before the *Sylvan* forms be properly fixed and named. I have found the subject expanding as I proceeded, and been compelled to leave untouched many perplexing Genera and families. For instance the Palms, *Ericoides*, *Smilaxides*, arborescent Grasses and many others, some of which I hope will soon be better settled by *Decandole* or *Endlicher*. But unfortunately all the laboring Botanists appear as yet to follow the absurd principle, so well pointed out by *Dr. Buchanan* of *squeezing* species into *alien* Genera. The whole of this work and my other late works are sufficient comments on this unwarrantable practice, that is the disgrace of Botany, preventing the science from making the needful rapid progress towards accuracy and perfection.

The Genera and Species to be revised, recti-

fied or restored, are still numerous, and will ever be until Botanists no longer *squeeze* them into improper groups, as some would squeeze Men among Monkeys, or make only one Genus as formerly of all the Monkeys, all the Bats, all the Confervas and all the Lichens! some Generic reformers like Lindley, Decandole, Agardh &c, who have done much on some peculiar families, skip over the glaring defects of others, or seek invisible characters of the seeds and embryos, while they overlook the striking floral disparities! not having yet seen Endlicher I cannot tell what he may have begun to do, and how far we may have followed the same paths: if we agree. let it be remembered that my reforms date of 1815.

In all the original accounts and figures of plants that I can consult, in late botanical works and travels, I find corrections to make even among the well described trees &c; while there are many more imperfectly designated, or even merely indicated. Much therefore will remain to be observed and well noticed by future writers. It must always be so in progressive natural sciences, and those who endeavor to keep them stationary or impede their progress, are to be reckoned among the foes of human knowledge, particularly if they neglect to avail themselves of the observations and researches, of previous writers, through various pretexts often frivolous or invidious, my practice instead has always been to avail myself of all previous accessible sources of knowledge: many of our plants and our animals must rest yet upon such observations of original discoverers, not always easy to verify nor to obtain the objects, either rare or of remote regions.

As to varieties, *most of our species are such,*

being natural deviations by seedlings assuming peculiar forms, in the woods and wilds, as it is done constantly in our fields and gardens by the cultivated trees and plants. Those best known afford most of our noticed varieties or specific deviations; but it is only our ignorance or neglect that prevents us from ascertaining in others all consimilar varieties. One of the great aim of accurate Botany is now to fix the typical and prototype species of each Genus; our subgenera are mostly such, when not based on floral disparities. When thus based they become real Genera; whose specific deviations should be traced.

I have detached from this Sylva, 3 parts of it that would have swollen it beyond my limits, and they are printed separately.

1. The revised or new kinds of Oaks, Willows, Poplars, Ash-trees, Hickories, Wax-trees, and other akin or related Genera, chiefly from North America.

2. The POMONA of North America or the native fruit trees and shrubs of the United States, greatly increased and revised, including the Plumbs, Cherries, Vacciniums, Rubus, Ribes, Vitis, and other Genera of esculent fruits. Of Vitis and Morus besides Roses. I have published separate monographs.

3. My ERIKON or account and figures of Ericas, Andromedas and akin Genera, with the Diosmas, Phylicas and other Ericoid shrubs.

To complete this labor I must now add the corrections and additions that have been suggested in the progress of it, and afterwards 3 important indexes—1. That of other N. G. of trees and shrubs described in my Flora Telluriana and New Flora—2d. The Index of the Natural

Classification of all these trees—3d. The Alphabetical Index—I hereafter propose to give a separate Index of all the trees and shrubs of North America, classed naturally.

ADDITIONS AND CORRECTIONS.

1. My *Pukanthus* 264 is the Genus *Grabuskia* of Schlecht, a previous name, it is figured in bot. register 1985.

2. Add to the Oleas 1 to 13. The *Olea emarginata* Lam, a tree of Madagascar 40 feet high forms the *G. Noronhia* of Stadman and Thouars—cor. globosa, stam. 2 brevis in fossulis immersis, drupis nux bivalvis 2 sperm.

3. Add after Lomanthes 546—The *G. Hexacadica* Lour. is near this—cal. 5phyl. stam. 5 liberis, fl. fem. cal. 6part. stig. 6, caps. 6loc. 6valv. 6sp.—Type *Hex. corymbosa*, fol. alt. ovatobl. integris glabris, fl. corymb. albis parvis. Tree of Anam.

4. Add to 528—Schobera alluded to was based on *Heliotropium angiospermum* of Murray, Vitman &c, the corolla had the tube ventricose and faux villose; type *Schob. hirsuta* Raf. fol. ovat. obt. undul. repandis. spicis. geminis secundis. Asiatic plant united to *Heliotropium* by mere habit, but belonging to VERBENIDES.

5. Add to Culhamia 417. This G. has been found again by Cailland in Nubia, and has been called *Sterculia setigera* by Delile, who only saw and described the fruits; while the flowers are quite peculiar.

6. Add to Pimentus 642, *Gregia aromatica* is a real Pimentus with 4 petals.

7. Add to Balanopsis 840. Commerson and Thouars pretend that the *Quercus molucanus* of Lin. are not Oaks, but belong to this G. and

several sp. are blended that must be examined.

8. Add to *Scurrula* 786—*Scurrula cinerea* Raf. caule tereto cinereo, ramis 4gonis, fol. petiol. ovatis, antheris adnatis elongatis decurrens—N. sp. of Celebes disc. by Lay.

9. *STREPSIMELA* Raf. diff. *Loranthus*, cor. basi globosa melliflua. limbo 5part. laciniis cornutis tortilis, stylo clavato—this also disc. by Lay but not named—Type *Str. coccinea* Raf. fol. ovatis lucidis, racemis axillaris elongatis fascicul. 3-4. fine Sp. of Borneo with long clusters of red flowers.

10. Add to *Etubila* 788, 2 N. sp. also disc. by Lay. *Etubila maculata* Raf. caule. ferrug. macul. fol. ovat. lanceol. cor. apice 5fida reflex. stam. 5 erectis---1d Bontain and Celebes, flowers orange color, berries rose color.

11. *Etubila ferruginea* Raf. ramis teretis punct. fol. ovatis subtus pubescens, cor. clavata, apice 6fida, lac. ovatis concavis valvatis, stam. 6 includens---Celebes, flowers rusty color, called Taburung meaning bird's dung.

12. *RUBUS* L. this G. of Shrubs, brambles and plants has not been well revised by Decandole, although the G. *Dalibarda*, *Comaropsis* (bad) and *Cylactis* have been proposed: it must be divided in many G. or subg. which I will merely indicate now. The types of the real *Rubus* are the blackberries and raspberries, with compound leaves, all those with simple leaves must be examined again. See till 24.

13. *PANCOVIA* Raf. name of Adanson for *Comarum* L. must be given to the *Comaropsis* an improper formed name. The true character of this G. is in calix camp. with interjected segments as in *Fragaria*.

14. *DYCTISPERMA* Raf. (ret. sem) diff. *Rubus*,

apetalis vel pet. squamiformis, fruct. lanato non baccato, sem. reticulatis—Types 1. *R. apetalus* Poir. vel *lasiocarpus* Sm. 2 *rigidus* Sm. 3 *urticefol.* Poir.

15. *CYLASTIS* Raf. 1817 diff. *Rubus* cal. angul. 6-8fidus, pet. 6-8 emarg. acinis paucis—type *C. montana* Raf. 1817, said to be *R. triflorus*, *saxatilis*, *parvifl.* *canadensis* &c of various authors, but perhaps several blending sp. and *R. egopodioides* Dec. is a 2d sp! *R. arcticus* a 3d, with petals 2-3fid.

16. *SELNORITION* Raf. (n. gr.) diff. *Rubus*, cal. patens vel reflexus, acinis paucis, sem. magnis rugosis—types several sp. blended and mixt in *Rub. obovalis*, *saxatilis*, *canadensis*, *cesius* &c.

17. *CUMBATA* Raf. (n. ind.) diff. *Rubus*, calix inflato globoso 5fido vel 5dent. petalis unguic. *fol. integris palmatis, bract. multif.*—two types at least.

18. *Cumbata alcefolia* Raf. *Rub.* do Poiret &c. ramis angul. fol. palm. serrat, rugosis bract. multif. capillaceis—shrub of Java, called *Cumbata*, flowers white as in next.

19. *Cumbata villosa* Raf. *Rub.* *rugosus* Sm. ramis teretib. fol. cord. lobat. subtus villosis, bract. ovut. laciniatis—Nepal.

20. *AMPOMELE* Raf. (n. gr.) diff. *Rubus*, petalis obov. longe unguic. *fl. racem.*—Perhaps a subg. of *Cumbata*, but calix as in *Rubus*.—Type *Amp. triphyla* Raf. *Rub.* do Thunb. &c, ramis flexilis gracilis, foliolis 3 rotund. crenat. subtus albis—Japan.

21. *AMETRON* Raf. (n. gr.) diff. *Rubus*, cal. ineq. 5part. 2-3lacin. lanato, petalis laciniatis, acinis 1-5 stylosis, sem. rugosis—very distinct G. by unequal calix &c.

22. *Ametron pyrifolium* Raf. Rub. do Sm. ic. Auct. frutesc. acul. fol. simpl. ovat. acum. serrat. petalis minutis squamif.

23. *Ametron pedatum* Raf. Rub. do Pursh, Hook. fl. t. 61. Dalibarda do Steph. Comaropsis do Dec. repens fol. quinatis, pedunc. unifl.—Origon.

24. MANTEIA Raf. (n. gr.) diff. Rubus. cal. 6-10fidus basi angul. petalis 6-10 integris, stam. clavatis, acinis depressis, stylis connivens—akin to Cylactis, 2 types M. or R. *stellatus* Sm. ic. 64. and 2 *acaulis* Mx. or pistillatus Sm. ex. t. 86.

25. CALLICARPA L. to this G. were united the 3 next G. differing by habit and other characters, although probably of same family AEGIPHILIDES differing from VITEXIDES by regular corolla and from RUBIACEA by free pistil.

26. AGONON Raf. (n. gr.) diff. Callic. cal. 4lobo, cor. campanul. 4loba, antheris 4 sessilis, stig. sess. *fol. alt. fl. umbel*—Type *A. umbellata* Raf. Callic. do Lour. arborea, fol. obov. alt. umb. sessilib. 5floris. Tree of Anam.

27. SEMNOS R. (n. gr.) diff. Callic. cal. villosa 4lobo, cor. brevis 4loba, stylo subnullus. *fl. panicul*—type *S. paniculata* Raf. Callic. do Lam.

28. AMICTONIS R. (n. gr.) diff. Callic. stam. epigynis vel monadelphis ut in Meborea, stylo subul. stig. acut.—Type *A. japonica* Raf. Callic. do Thunb. auct.

29. TRAXILISA Raf. diff. Calligonum, cal. 5part. cor. 4part. eq. stam. pluris, stylo unic. stig. bipart. bacca 2partibilis uniloc. polysp.—not even of same family Polygonides, but rather akin to my ILEXIDES 169, although the many stamens (perhaps 12 or 16) indicate another family near to DIOSPYRIDES.

30. *Traxilisa aspera* Raf. *Calligonum asperum* Lour. Mart. &c fol. ovatis scabris, racemis ramosis—Shrub of Anam.

31. ODOLLAMIA Ad. Raf. diff. *Cerbera*, cal. 5part. cor. tubo angul. villosa, stig. ovato bif. drupis 2locul. 2sp.—Types 1 *O. manghas* Raf. Cerb. do auct. 2. *O. moluca* Raf. Odollam Rumf. 1 t. 124. 3. *O. malabarica* R. Odollam Rheed 1 t. 39.—This G. and the 4 next blended in *Cerbera* are very distinct although of same family CERBERIDES.

32. NEISOSPERMA R. (not eq. seeds) diff. *Cerbera*, fruct. ovat. muricato lignoso semibivalv. 2loc. 4sp. sem. compressis ineq.—2 Types also, 1 *N. muricata* R. Cerb. *platisperma* Gaertn. &c, 2 *N. muscaliformis* Cerb. do Lam. &c.

33. LACTARIA Rumf. Raf. diff. *Cerbera*, cal. 5fid. cor. hypocraterif. non contorta, tubo curvo, stylo curvo corolla erumpens. stig. clavato compr. drupo monosp. fol. oppositis—Type *L. salubris* Rumf. 3 t. 84, *Cerbera* do Lour. oppositif. Lam. &c.

34. Add to *Thevetia* 536, Adanson ascribes to it a bilocular polysperm berry—the real *Cerbera* or *Ahouai* of Adanson has stigma bilamelar, drupe monosperm, calix reflexed, corolla undulate. Type *C. ahuai*.

35. CASCABELA Raf. diff. *Cerbera*, stig. capit. acum. 20denticulat. drupis 4gonis 2loc. oligosp—Type *C. peruviana* Raf. Cerb. do Pers. *thevetia* RP. fol. lin, lanceol. Tree of Peru.

36. SYMPLOCOS Auct. many alien G. have been united to it—*Alstonia* with petals 10 subcoalescent—*Ciponima* with 5 petals coalescent campanulate—*Hopea* 5 free petals &c. They must all be restored, and the type of *Symplocos* will

be *S. vera* or *octopetala* with 8 free petals. All have many stamens not so the next.

37. *NEISANDRA* Raf. diff. *Symplocos*, pet. 5 liberis, stam. 10—Type *N. indica* Raf. *Hopea decandra* Buch. Roxb.

38. *GORDONIA* L. the *G. Lasianthus* and *Franklinia* united thereto by many botanists are perfectly distinct although akin) *G. hematoxylon* is the type, with petals unequal, style 5parted capsule with 2 winged seeds in each cell &c. *Lasianthus* has 5 acute stigmas, cells polysperm. seeds angular &c.

39. *STUARTIA* (misprinted *Stewartia*) is also distinct from *Malacho-dendron*, wrongly united by some botanists.

40. *CLUSIA* L. &c, many alien sp. of trees and shrubs have been thrown into this *G.* which must be divided see till 44. *Clusia rosea* is the type of the *G.* with—cal. 6part. ineq. imbric. petalis 3, stam. pluris biserialis, stig. 8rad. caps. 8loc. 8valv. intus pulposa.

41. *BIROLIA* Raf. (bot) differs *Clusia*, cal. 9part. triserialis, petalis 3, stam. 5-8, stig. 5-6d caps. 5-6loc. valv—Type *B. or Cl. alba*.

42. *ICOSTEGIA* Raf. (20 cover) diff. *Clusia*, cal. 16 sepalis quadriserialis, petalis 4, stam. plura 4serialis, antheris lobis divisis, stig. cupularis 4 auriculis 12radiat, caps. 12locul.---Type *I. or Cl. flava*.

43. *ELWERTIA* Raf. (bot) diff. *Clusia*, cal. 8sepalis biserialis, petalis 6, stam. plura, antheris simplex, caps. glob. 16-18locul---Type *E. or Cl. retusa*, Lam. t. 862.

44. *FIRKEA* Raf. (bot) diff. *Clusia*, cal. 4sepalis biserialis, petalis 4, stam. plura, stig. 5rad. caps. 5loc.---Type *F. or Cl. venosa*, and *F. rosea* Raf. fl. racem. roseis var. of Miller. *Cl.*

sessilis and *pedunculata* with 4 petals either belong here or to *Elwertia*, unless with other anomalies. Jussieu deems the caps. uniloc. in all.

45. *COFFEA* L. &c, this G. now greatly increased, includes at least 2 others blended G. *Potima* Pers. with monosperm berry and the next.

46. *HEXEPTA* Raf. (6 or 7) diff. *Coffea*, cal. 6-7dent. cor. 6-7fida, stam. 6-7, baccis sepe angulatis 2sp. vix arillatis---types 2 shrubs of East Africa.

47. *Hexepta axillaris* Raf. *Coffea zanguibarica* Lour. M. &c. fol. ovatolanc. ped. axil. unifl. fascicul. baccis obl. ang. nervosis.

48. *Hexepta racemosa* R. *Coffea* do Lour. M. &c fol. ovatolanc. tuberc. pedunc. 4gonis racemosis.

49. *PERSIMON* Raf. add to *Mabola* 21, the *Diospyros virginiana* is stated to have 16 stamens in two rows, while real *Diospyros lotus* &c, only 8 in one row, if so which I will soon verify, it must with other American sp. form the G. or subg. *Persimon*, a very good name nearly Greek in euphony although American.

50. Add to 837. there is a previous G. *Evosma*, Shrub of Australia and *Lysianthides*; therefore the *Evosmus* of Nuttall must be changed, I propose *EVELYNA*, dedicated to Evelyn the author of a *Sylva*.

51. Add to *Pleuteron* 673, some of the *Brey-nias* with 6 stamens and double calix, were called *Hermupoa* by Loeßling, the type had scarlet flowers, compare my *New Genera*.

52. *TETRACERA* G. in utter confusion by the medley of G. thrown into it, *Delima* style 1, *Piripea* dioical &c, *Euryandra* 3 styles, *Doliorcarpus*, *Mappia*, *Calinea*, *Valbomia* &c, which

must all be separated again, besides the 3 next also.

53. GYNETERA Raf. diff. pistilis et caps. 4 ineq. *frutex scandens*---type *G. or T. volubilis*.

54. ELEIASTIS Raf. diff. cal. 6part. petalis 0, capsulis 4---type *E. or T. levis*.

55. DIPLOTER Raf. (double div) diff. cal. 4part. petalis 4-5, Stam. filam. dilatatis biantheriferis, caps. 4---type *D. or T. alnifolia*.

56. Add after 973 and Laurines, Jaquin, Smith and others have united to *Tetranthera* a G. chiefly distinct from *Laurus* by anthers 4locular (although *Sassafras*, *Camphora* &c have similar anthers) many alien G. that must all be restored, *Litsea*, *Tomex*, *Glabraria*, *Hexanthus* &c, 5 plants of various G. have even been blended in *Laurus* or *Tetrac. involucrata*. I must even add 4 new G. out of *Tetranthera*, see till 63.

57. DECAPENTA Raf. diff. Stam. 15, anth. 4loc.---Type *D. involucr.* *Laurus* do Retz. *Tetrac. apetala* Smith.

58. HECKERIA Raf. (bot) diff. cal. corolato urceol. 5lobo, Stam. 9---Type *H. glomerata* Raf. *Tetranthera monopetala* Roxb. 148. Sm. fol. ellipt. acutis uninervis, fl. glomeratis. India, *Hexanthus* differs by cal. 6part.

59. BRYANTEA Raf. (bot) diff. cal. corol. 4part. Stam. 6---Type *Br. dealbata* Raf. *Tetranth.* do. R Brown, Sm. &c.

60. CUBEBA Raf. diff. cal. corol. 6fido ineq. Stam. 6, stig. sessile, bacca globosa---Type *C. piperita* Raf. *Tetr.* do Sm. *Laurus cubeba* Lam. fol. lanc. avenis, pedunc. unifl. India.

61. LITSEA Lam. Pers. diff. dioica, Stam. plura 5-9adelphis, villosis, internis sterilis---Type *L. or T. chinensis*, probably not of this tribe nor

the next, nearer to the monosperm Hesperides,

62. *TOMEX* Th. W. diff. *Litsea*, cal. 4part. stam. 100 decadelphis, pistilis 10---Types *T. japonica* and *sebifera*.

63. *GLABRARIA* L. &c, diff. *Litsea*, stam. 30 polyadelphis, 6 internis monadelphis---Type *Gl. tersa* L. or *Tetr. glabraria* auct.

64. Add after *Crescentia* 471, the G. *Tanaesium* W. is akin to this, but *T. pinnatum* is totally different by habit &c, forming a new G.—*KIGELKEIA* Raf. (n. afr.) diff. cal. tubul. 5fido, stam. 5 fertiles, glandulis 5 basi pist. cingens---Type *K. pinnata* Raf. *Crescentia* do Jaq. Tan. do W. P. &c. Tree of East Africa, with pinnate leaves.

65. *MYRSINE* L. &c, some botanists would unite thereto *Walleria*, *Ardisia*, *Manglilla*, *Athruphyllum*, *Roemeria*, *Rhacoma*, *Rapanea*, *Badula*, *Pyrgus* &c which must all be separated, but better described: and I must even add some other G. out of *Myrsine*, see till 72.

66. *FIALARIS* Raf. (vial male) diff. dioica, fl. masc. corolla urneformis, 4dent. 4andris---Type *F. umbellata* Raf. *Myrsine urceolata* R Br. Sm. fol. obl. lanc. integris, umbellis axil. sessilib.---Australian shrub.

67. *HEURLINIA* Raf. (bot) diff. cor. 4-5fida, stam. 4-5, antheris sessilib. drupis monosp.---Type *H. or M. variabilis*---near *Manglilla*, which is *Duhamelia* of *Dombey*---it must be verified if these G. and all the akin have stamens opposed to corolla as in *MYRSINIDES*, if alternate they will belong to *ILEXIDES*, see 169.

68. *BADULA* Juss. diff. *Myrsine* and *Ardisia*, cor. limbo rotato 5part. stig. capit. bacca monosp. arillata---several sp. indicated by Jussieu,

not well settled. *Embelia* of Burm. Jus. chiefly differs by 5 petals.

69. *PYRGUS* Lour. diff. *Ardisia*, cal. 5dent. pers. cor. rotata 5part. stam. 5, antheris magnis connivens, stylo subul. stig. acut. bacca monosp. ---Type *P. racemosa*, fol. ovat. lanc. racemis term.—Shrub of Anam.

70. *MILNEA* Raf. (bot) diff. *Ardisia*, 4-5fida, stam. 4-5, stig. 4-5fido, bacca 4-5loc. 4-5sp.---Types several *Ardisias*, the real *G.* has a monosperm drupe.

71. *GALIZIOLA* Raf. (bot) diff. *Ardisia*, stig. capit. integro, bacca uniloc. polysp,---some *Ardisias* have those characters.

72. *ROEMERIA* Th. the type is *Sideroxylon* or *Manglilla Melanophlea* of authors.

73. *MESSERMIDIA* L. auct. the type is *M. fruticosa* with cor. hypoc crateriform, and 2 blended sp. or var. latif. and angustif. shrubs of Canary; but 2 other *G.* hardly shrubs have been blended also.

74. *ARGUZIA* Raf. diff. 73, cor. infundib. faux nuda, limbo plicato, sinub. membranaceis---Type *Arg. repens* Raf. *M. arguzia* L. &c.

75. *RACLATHIRIS* Raf. (berry cane) diff. 73, cor. tubul. ad cal. eq. baccis siccis cancellatis dispermis---Type *R. cerinthoides* Raf. Mess. cancellata, Dasso, Sm. *Cerithe* of Quer--Spain.

END OF THIS SYLVA.

Including 1075 articles, nearly 800 Genera, and over 1000 typical species, with many monographs.

NATURAL ARRANGEMENT and Reference to natural Tribes of the new or revised GENERA of this work—with those of the trees and shrubs of my MANTISSA, FLORA TELLURIANA 1836,—and some in my NEW FLORA AND SYLVA OF NORTH AMERICA 1836.

M. means the Mantissa.

N. means the New Flora.

S. this Sylva ,Ap. Appendix of it.

FIRST SERIES of Natural orders,families tribes and groups of Trees and Shrubs—Alphabetical Index.

ANISANTES---Cormophytes, Exogenous, Dicotyle, with perigonal or lepigonal flowers, having the stamens either heterogonal, or when isogonal, alternate to the inner segments or petals if existing, and opposite to the single or outer segments or sepals.

Acanthides—Zonablephis 922, Trixanthera 935.

Achyranthides 520 M—Codivalia 543, Ecloteripa 546 M.—Everiou 779 S.

Akèrides—Lasipana 80 S—7 subg. of Aker in N. vol. 1. Lexicon.

Amaranthides M—Cadelaria 539 M.

Amyrides Pattara 16, Calliama 23, Claderia 27, Curnilia 78, all in M.

Asarides—Steirexa 1116 M.

Basellides 571 M—Calostima 731 S. 589 M.

Begonides—Trilomisa 347 M.

Bergerides—Marottia 999.

Beslerides---Senkebergia 393, Lophalix 394, Hematophyla 397, Fimbrolina 399, Eriphia 442, Dendrosicus 466,Crescentia 468,Glycanthes 485 Columnea 487,Aponoa 488,Kigelkeia 64 Ap.

Bignonides—*Leucoxylon* 445 till *Odisca* 464, *Sererea* 660, *Nevrilis* 881, *Pentelesia* 937
---*Cupulissa* 203 M.

Borragides---*Pioctonum* 517 till *Eliopia* 531.

Campanulides---*Benaurea* 290 M.

Capparides—many G. from *Nevosmila* 662 to *Oligloron* 675, *Octanema* 693.

Cassythides M. with 5 G. 1077.

Celastrides—*Semarilla* ? 933.

Celosides 559 M—*Gonufas* 777 S. *Deeringia* 569 M.

Cerberides---*Thevetia* 536, *Odollamia* ap. 31 to *Cascabella* ap. 35.

Cistides---many G. 823 to 833, *Iloranthes* 549 N,

Cleomides—many G. *Cleome* 676 to *Mytostylis* 707, *Riddelia* 766 N.

Clethrives—*Ireon* 877, *Fouquiera* 962, *Bronnia* 964.

Coniferous, *Abies* 13 sp. in N. Lexicon.

Cornides---*Benthamia* 817.

Cruciferous---*Acuston* 920.

Daphnides---many G. *Sanamunda* 1135 M. till *Nestronia* 1147 M. and 503 N.

Diospyroides---*Mabola* 21, *Benzoina* 834, *Traxilisa*? ap. 29, *Persimon* ap. 49.

Echioides 55 M. many G. *Oplexion*, *Penthysa*.

Empetrives 635 N---*Coilosperma* 564 M. *Corema* 594 N. *Euleucum*, *Endamnia*.

Erythroxilides---*Sethia* 958.

Euphorbides---*Croton* 335 till *Leptemon* 372, *Bernardla* 390, *Phylanthus* 537 till *Synexemia* 552, *Endoisila* 708, *Peccana* 710, *Ditritra* 712, *Hexacadica* ap. 3.---M. *Lacanthia* 356, *Euphorbia* 1168 till *Cyathophora* 1189, &c.

Ficoides or *Sycophores*---many G. *Ficus* 301 till *Mastosuke* 316.

Flosculosos---Fornicaria 721, Flustula 723, Ismaria 729, Keringa 924---M. Brephocton 178, Stahelina 1190 to 1200 &c.

Fraxinides---Nestegis 13, Notelea 14, Postuera 15---M. Nudilus 727 N. till Samarpses 733.

Gonoliges or *Aphanides*---Zamzela 534, Sphenista 535, Polylepis 966, Quinasia 968.

Gratiolides---Eusynetra 201 M.

Guttiferous---Ganitrum 319, Perinka 320. Clusia ap. 40 to Firkea ap. 44.

Hederides---Allosampela 515.

Hesperides---Apama 29, Kambala 67 Poncirus 920---Lolanara 106 M.

Hypericoides---Misipus 321, Skidanthera 323---M. Streptima 352, Menetho 353, Episiphis 729, with several G. not fruticose.

Ilexides 169---Cordia 170 till Desmophyla 211, Aquifolium 212 till Enepta 260, Lycium 261 till Huanuca 274, Oskampia 770, Callicarpa ap. 25 to Amictonis 28, Raelathris ap. 75, Cationia 116 M. several of these G. with single stigmas belong to subfamily LYCIOIDES or Aegiphilides.

Justicoides---M. Strepsiphus 348, Petalanthera 378, and many G. from Justicia 968 till Oplonia 987.

Labiates M. 756---*Unilabiate*, many G. Teucrium 757 till Monopsis 763 M.---SALVIDES, several frutescent G. Codanthera 789 M. Enipea 799 M---BILABIATE, S. Gnoteris 433, Nostelis 438 . . . M. Diodeilis 750 and N. 60 to 693, 5 G. of Origanum 764 M. Piloblephis 604 N. Phloemides 769 till 785.

Laurines---Laurus 835 till Tamala 865, Knema 872, Tetranthera ap. 56 to Glabraria ap. 63.

Leguminosos---1 *Papilionides*. Retama 82

and many other G. till Meiemianthera 100, Dialosperma 382 till Damapana 389, Resupinaria 718—2 LOMENTIDES. Bessia 33, G. of Mimosas from Strepsilobus 733 to Melilobus 758, Pleuromenes 926, G. of Bauhinias from 760 to Phanera 767, Elayuna 928, G. of Cassias 768, 769, and from Isandrinia 793 to Octelisia 812... Zaga 101 M, Delonix 350 M. Drepilia 342 N.

Linides 501 M. Numisaurum 502 M.

Lonicerides—M. Kantemon 523, Distegia 525 &c.

Lurides---Siphaulax 710, Cohiba 715 M.

Lythrines---Quirina 614 till Nesaea 627.

Malvoides---Munchusia 716.

Meborides, Meborea 1117 M---S. Episteira 20, Fometica 433, Lindera 870, Amictonis? ap. 28.

Melastomides---Bellucia 553 till Synodon 569. Octonum 574 till Savastana 604.

Morides---Toxylon 577 N. Fusticus 579 N.

Myrtides---Eustegia 570, Beckea 630 till Malidra 659.

Naucoides---Axolus 329, Gilipus 331, Eresimus 333.

Nyssides---Rhizaeris 532.

Oleides or Ligustrides---Enaimon 8, Pausia 10, Pogenda 11, Tetrapilus 875—Faulia 314 M.

Passiflorides, several G. 1120 M.

Piperides—11 G. from Piper 489 to Carpupica 500.

Plumbagides—Molubda 771.

Polygonides—M. Tephis 404 to Spermaulaxen 416, N. 575. Menophyla 576 M. Pleurostena 573 N.

Pomides—Xeromalon 501 N. Spondolobus 542 N.

Radiate—Montanoa 725, Zexmenia 727—M Dectis 148, Orestion 171.

Resedines—Tereianthus 703 M.

Rhexides—Arthrostema 577, Exodíclis 590, Ephynes 606 till Bolina 608.

Rhodorides—Stemotis 985.

Rivinides 630 M.—Gandola 325.

Sarcocides 626 M—Raxamaris 624 M.

Scrophrolarides—Dasanthera 396 N.

Senticoses---9 G. Rubus ap. 12 to Manteia ap. 24.

Sesamides---Aragoa 939.

Siphonanthides, 1064 M.

Solanides, including Cestrídes with uniloc. berry---Benteca 31, Trozelia 275, Diskion 284, Cestrum 292 till 300, besides some Lycioides 261 to Deprea 300.

Sphanides or Rubiaceous---Bemsetia 25, Yangapa 71, Rothmania, Pleimeris, Xeromphis, Acmostima 101, Jurgensia 940 till Patabea 955, Hexepta ap. 46.

Spireades---14 G. from Spirea 971 to Thecanisia 984, Tetracera ap. 52 to Diploter ap. 55---N. Physocarpa 667 till Basilima 674.

Sterculides---20 G. from Sterculia 401 to Icosinia 432.

Symplocoides---Ap. Traxilia 20, Symplocos 36, Neisandra 37.

Tamarixides---Eudiplex 533 M.

Theaphylines or Ternstromides---Theaphyla 833 to Drupifera 900.

Thylaxides---Triplobus 683.

Tilioides---Bedusia 19, Tridesmia 930, Xeropetalon ? 932.

Vaterides---Atuna 991 to Curundia 994.

Verbascoides 1166 M.---Diamonon 284 M.

Verbenides---Silannus 327. Schobera ap. 4---

M. Kurritis 229, *Pilopus* 388 till *Aloysia* 400.

Viburnides---*Thyrsosma* 814.

Vitexides---*Egena* 317 *M. Lantana* 472 to *Batindum* 477 S.

N. B.---I have not attempted to put these 85 tribes into their Natural Classes, as none of those proposed are properly natural, except mine which are explained in the first volume of my *Flora Telluriana*. I have ventured however to separate from this long Series, another series that approximates to the Endogenous Series by the regular position of Isoperial stamens, and must invite the attention of correct botanists, as indicating one or more Natural Classes.

SECOND SERIES of Natural Orders, families or tribes of Trees and Shrubs.

ENDANTINES (inside opposing) Cormophytes, Exogenous, Dicotyle, with regular perigonal flowers, having the stamens isogonal, either opposed and equal in number to the inner segments or petals when existing, or alternating to those of the outer perigone always present.

Berberides—*Odostemon* 381.

Convolvulides---*M. Kolofonia* 1013 till *Bucharea* 1053, including 6 fruticose *G. Rhodoxylon* 1033 &c.

Gentianides---*M. Roeslinia* 495, *Ditereia* 1052.

Guanides 8 M—*Ledelia* 996 S.

Loranthides 269 M—many *G.* from *Loranthus* 781 till *Glutago* 792, *Strepsimela* ap. 9.

Myrsinides—many *G.* from *Ampeloplis* 155 till *Xantolis* 168, *Guersentia* 989, *Myrsine* ap. 65 to *Roemeria* ap. 72.

Rhamnides—25 *G.* from *Alaternus* 105 till

Hetheringia 154, Nirwamia? 160, Kandena? 879, Tubanthera? 998.

Sarmentose—12 G. from Cissus 501 till Ampelopsis 514.

Pselides 735 N. and *Samolides* 998 N. are 2 other new tribes of this Series, including some shrubs. The Mangides, Evantipes, Menispermites, Sapotides, Primulides, and many others also belong to it.

THIRD SERIES of Natural tribes including Frutescent Genera.

ENDOGENES or Monocotyles.

Aroides—Pleurospa 803 M.

Asparagoides—Euphyleia 827 M. Gurenias 864 M.

Orchides—Many of my revised G. in Flora Telluriana, assume frutescent or perennial stems.

Palms—Zelonops 386 M.

As I stated I have not yet revised the frutescent Smilaxides and Grasses.

In my New Sylva of North America, if I had few New G. I had many New Sp. of trees and shrubs, such as Hamamelis 4, Viscum 4, Fagus 7, Castanea 4, Evonymus 8, Ceanothus 15, Bumelia 4, Celtis 14, Ulmus 6, Morus 5 (in my new monograph I will have 25 sp. whereof 7 new,) Hydrangea 11. Chionanthus 6, Chrysobalanus 4, Chrysophyllum 2, Anthelis 2, Lonicera 516 to 530, Spirea 633 to 676, Forestiera 712 to 727. with one N. sp. each of Celastrus, Amorpha, Sapiindus, Diospyros, Cephalanthus &c.

In my work on Oaks &c, I shall have 27 new Quercus. whereof 22 North American,—Fraxinus and akin Genera, a monograph of 52 sp. many new,—Myrica 12 sp.—of Willows or Salix, 22 new Genera or Subgenera, 6 new sp. &c.

INDEX.

Of the Genera and Subgenera of Trees and
Shrubs included in this Sylva---Synonyms
are in Italics.

- | | |
|---------------------------|--------------------------|
| Abrophaes 598 | Amyrsia 651 |
| <i>Acakia</i> 736 &c, 926 | Anavinga 960 |
| <i>Acanthus</i> 922 | Anisora 421 |
| Acinodendron 560 | Anneslia 756 |
| Acinolis 565. | Antisola 584 |
| Acmostima 101 | Anthelis 827 |
| Acnadena 198 | Antheryta 575 |
| Acuston 820. | Antriba 789 |
| Adansonia 957 | Apama 29 |
| Adipera 807 | <i>Apartium</i> 88 |
| Afarca 127 | Aponoa 488 |
| Ageria 226 to 240 | Aquifolium 212 |
| Agonon ap. 26. | Aragoa 939 |
| Aguava 656 | Ardisia 70 ap. |
| <i>Agyneia</i> 69 | Arguzia 74 ap. |
| Ajovea 846 | Arivala 679 |
| Alaternus 105 | Arinemia 245 |
| <i>Aleome</i> 691 | Arthrostema 578 |
| Alicabon 297 | Aruncus 982 |
| Alicteres 430 | Asacara 787 |
| Alifana 607 | Ascleia 269. |
| Allohemia 787 | Ascyrum 620 |
| Allostis 634 | Aspalathus 382-9 |
| Allosampela 715 | Atadinus 129 |
| Allosemis 579 | Atalanta 704 |
| <i>Alyssum</i> 820 | <i>Atropa</i> 281-8, 775 |
| Amalago 491 | Atulandra 140 |
| Ametron 21 ap. | Atuna 991 |
| Amictonis 28 ap. | Aubion 680 |
| Ampelopia 155 | Auliphas 567 |
| Ampelopsis 514 | Aulonix 99 |
| Amphione 819 | Avornella 93 |
| Ampomele 20 ap. | Awayus 975 |

- Axolus 329.
 Ayparia 992

 Badula 68 ap.
 Banlanghas 403
 Balanopsis 840, ap. 7
Ballota 436-7
 Basilima 979.
 Batindum 477
 Bauhinia 760-7, 928
 Beckea 630-4
 Bedusia 19
 Bellucia 553
 Bemsettia 25
 Benkara 593
 Bentecca 31
 Benthamia 817
 Benzoina 834
 Berberis 373-80
 Berchemia 151-3
 Bergenia 616
 Bernardia 390
Besleria 391, 442
 Bessia 33
 Betela 500
Bidens 721
 Bignonia 445-65
 Binaria 761
 Birolia 41 ap.
 Blepetalon 131
 Bolina 608
 Borellia 196
 Bourreria 203
 Braxilis 258
 Braxipis 408
 Breynia 674
 Bronnia 964
 Brunsvia 347

 Bryanthea 59 ap.
 Burcardia 653

 Cajanum 98
 Callicarpa 25-28 ap.
Calligonum 29 ap.
 Calostima 731
 Calsiana 23
 Camaion 427
 Camirium 345
 Camphora 857
 Cansenia 764
 Capparis 664-94
 Carapichea 946
 Cardiolepis 116-120
 Carpichea 184
 Cascabela 35 ap.
 Cascarilla 339
 Casearia 959.
 Cassia 768-9, 794 to 812.
 Cassine 219
 Caucanthus 404
 Causonia 510
 Celosia 777-80
 Cephalanthus 327-34
 Cerbera 31-35 ap.
 Cestrum 280, 292-5
 Chetocrater 961
Chionanthus 874.
Chrysophyllum 989
 Cinnamomum 852
 Cinogasum 337
 Cissus 501-14
 Cistus 823-33
 Citrus 901-20
 Claderia 27
 Clastilix 600

- Cleome 676 to 707.
 Clompanus 411
 Cluacena 635
 Clusia 40-44 ap.
 Coalisina 706
Codium 351
 Coffea 45-48 ap.
 Coilanthera 175
 Colaria 413
 Colletia 154
 Colococa 187-92
 Colpurnia 220
 Columnea 485-8
 Conamia 550
Conocarpus 532
Conyza 723
 Cordia 170 to 200
Corniola 92
 Cottana 305
Crantzia 394
Crateva 662
 Crescentia 466-71
 Cristella 698
 Croton 335-72, 390
 Crozophora 369
 Crozophyla 351-5
 Cubeba 492, ap. 60
 Culhamia 417, ap. 5
 Cumbata 17 ap.
 Cumetea 655
 Cupamenis 371
 Cuparilla 752
 Cuphea 614-20
 Curnilia 78
 Curpupica 500
 Curondia 994.
 Cylactis 15 ap.
 Cytisus 96-100
 Dahunia 228
 Damapana 389
 Damburneya 864
 Dancera 557
 Decapenta 57 ap.
 Decarinium 358
 Decateles 165
 Decorima 136
 Dendrema 34
 Dendrosicus 466
 Deprea 300
 Derosiphia 611
 Desmitus 893.
 Desmophyla 211
 Dialanthera 796
 Dialion 521
 Diallobus 801
 Dialosperma 382
 Diaxulon 95
 Dictisperma 14 ap.
 Diospyros 21
 Dipetalon 626
 Dipliathus 848
 Diplisca 143
 Diplukion 268
 Diplotax 811 ap.
 Diploter 55 ap.
 Diskion 284
 Dispara 968
 Disterepta 794
 Distixila 762
 Ditremexa 798
 Ditrishynia 356
 Ditritra 712
 Drepadenium 357

Drimopogon 973
Drupifera 900
Dupineta 613

Ectemis 182
Editeles 625
Ehretia 203-11
Elayuna 928
Eleiastis 54 ap.
Eleiosina 972.
Eleodendron 156
Eleocarpus 318-23
Eliopia 529-31
Elwertia 43 ap.
Emblica 539
Emelista 800
Emetila 224
Emurtia 649
Enaimon 8
Endecaria 617
Endocarpa 850
Endoisila 708
Endoloma 460
Endotropis 144
Entada 742
Ephaiola 775
Epicoila 790
Epicostorus 977
Episteira 69
Eplateia 298
Epleienda 658
Eresimus 333
Eriphia 442-4
Eriocylax 385
Erithalis 772-4
Erpila 476
Esclerona 750

Etorloba 458
Etubila 788, ap. 10
Eugenia 655-9
Euphorbia 708-15
Eustegia 570-3
Euteline 94
Evanesca 648
Evelyna } 837
Evosmus } ap. 50
Everion 779
Evoista 289
Exodeconus 299
Exodiclis 590

Fakeloba 383
Farsetia 920
Ferronia 418
Fialaris 66 ap.
Ficus 301-17
Filipendula 983
Fimbroлина 400
Firensia 187-90
Firkea 44 ap.
Flustula 723
Folianthera 749
Folomfis 588
Fometica 433
Forgeruxia 147
Fornicaria 721
Fouquiera 962
Frangula 111
Fumana 829

Galiziola 71 ap.
Gandola 325
Ganitrum 319
Gardenia 71-77

Genista 92-94
Gerascanthus 194
Gillenia 981
Gilipus 331
Girtaneria 112
Glabraria 63 ap.
Gleditsia 756-8
Glutago 792
Glycanthes 485
Gnoteris 435-7
Gomphotis 631
Gomphrena 780
Gonema 581
Gonistema 495
Gonoloma 504
Gonosuke 308
Gonufas 777
Gordonia 38 ap.
Gossypium 35 to 66
Gregia 6 ap.
Grislea 621
Guersentia 989
Gumifera 738
Gyneseophyla 749
Gynetera 53 ap,
Gynomphis 597
Gynophalis 674

Halecus 340
Hecatandra 743
Heckeria 58 ap.
Hedusa 612
Helicteres 410-32
Heliotropium 517-31
Hematophyla 397
Hemiscola 688
Hemidesma 741

Heptalon 359-03
Hepteireca 795
Heritiera 434
Hermupoa 51 ap.
Herpetica 769
Hetheringia 154
Heuclinia 67 ap.
Hexacadica 3 ap.
Hexepta 46 ap.
Hibiscus 716
Hieranthes 456
Hippoxylon 452
Hirtella 534-5
Horanthes 832
Huanuca 274
Hyhipus 781

Icosinia 431
Icostegia 42 ap.
Ilex 202, 212 to 244
 255 to 258.
Intutis 665
Ipecacuana 944
Ireon 877
Irsiola 502
Isandrina 793
Isexina 696
Ismaria 729
Iticania 783
Ituterion 505

Jaravea 592
Jurgensia 940

Kadalia 610
Kambala 67
Kandena 879

- Karaka 407
 Karkandela 650
 Karpas 36
 Kavalama 406
 Kemelia 891
 Kemoxis 503
 Kenkramis 304
 Keringa 924
 Kigelkeia 64 ap.
 Kirganelia 548
 Knema 872
 Kokabus 287
 Kukolis 286
 Kurkas 336

 Laburnum 95
 Lacistema 497
 Lactaria 33 ap.
 Ladanum 824
 Lagansa 678
 Lanigernm 38
 Lantana 472-84
 Lasipana 80
 Laurus 835-69, ap. 56
 to 63
 Ledelia 996
 Leiofaium 37
 Lepianthus 493
 Leptemon 372
 Leucoxylon 445-7
 Libanotis 826
 Lindera 870
 Linociera 874
 Lithoplis 145
 Litsea 60 ap.
 Lomanthes 546
 Lomastelma 657

 Lomeria 295
 Lomoplis 737
 Lophalix 394
 Loranthus 781-92, ap.
 8 to 11
 Lugaion 85
Lunaria 922
 Luntia 338
 Lycium 261-280, 289
 Lygoplis 91
Lygos 82
 Lythrum 623-9

 Mabola 21
 Macucua 227
Mahonia 381
 Maieta 601
 Malabathris 587
 Malidra 659
 Malnerega 921
 Mandarus 721
Manglilla 72 ap.
 Manteia 24 ap.
 Marcorella 139
 Marottia 999
 Marsesina 694
Mascalanthus 552
 Mastosuke 316
 Meialisa 350
 Meiemianthera 100
 Meiena 782
 Melastoma 555 to 604
 Melfona 624
 Melidiscus 681
 Melilobus 758
 Melvilla 619
Mesosporum 435

- Messermidia 73-5 ap.
 Meterana 364-8
Methysticum 500
Millingtonia 881
 Milnea 70 ap.
 Misipus 321
 Mimosa 733 to 56
 Mitostax 748
 Mitostylis 707
 Moeroris 542
 Molubda 771.
 Monoteles 766
 Montanoa 725
 Mozambe 692
 Munchusia 716
 Murrinea 634
 Myginda 201
 Myrsine 65-8 ap.
 Myrstiphyla 954
 Myrtus 636-52
 Mystacinus 133

 Nareca 594
 Necalistis 310
 Nectandra 843
 Nefrakis 386
 Neisandra 37 ap.
 Neisosperma 32 ap.
 Nellica 544
 Neltama 747
 Nesaea 627
 Nestegis 13
 Nevosmila 662
 Nevrilis 881
 Nictitella 804
 Niruris 540
 Nisoralis 424

 Nirwamia 160
 Nostelis 438-41
 Notelea 14
 Notholex 234
 Novella 185
 Nubigena 187

 Octanema 693
 Octelisia 812
 Octella 583
 Octonum 574
 Odisca 464
 Odollama 31 ap.
 Odostemon 381
 Odotalon 370
 Oenoplia 151
 Olea 1 to 13, ap. 2.
 Oligloron 675
 Olofuton 671
 Oluntos 311
 Oncufis 707
 Opanea 652
Ophelia 957
 Ophiocaulon 819
 Oplukion 266
 Opsago 281
 Opsopea 416
 Osbeckia 609-13
 Oskampia 770
 Osteorax 221
 Oxisma 564
 Oxodium 496
 Ozanthes 836
 Ozoxeta 426

 Palicurua 953
 Paliurus 148
 Paltoria 229

- Pancovia 13 ap.
 Panisia 806
 Panthocarpa 744
 Parqujs 294
 Patabea 955
 Pattara 16
 Pauletia 763
 Pausia (Cartrema) 10
Pavetta 101
 Paxistima 201
 Peccana 710
 Pedastis 709
 Pederlea 277
 Peiranisia 797
 Peltomesa 791
 Penteka 341
 Pentelisia 935
 Peperomia 490
 Perfonon 121-3
 Periana 474
 Pericla 697
 Perima 735
 Perinka 320
 Peristima 725
 Peritoma 695
 Persimon 49 ap.
 Perula 312
 Phanera 767
Phyllaurea 351
 Phyllirea 816
 Phyllanthus 537-51
 Physalis 296
 Physocarpa 976
 Piloisia 206
 Pimentus 642
 Pioctonum 517-20
 Piper 489-500
 Platolaria 448
 Pleimeris 74
 Pleureia 942
 Pleuromenes 926
 Pleuteron 673
 Plicula 285
Plumbago 771
 Podolobus 703
 Pogenda 11
 Polylepis 966
Pomaderis 996
 Pomponax 736
 Poncirus 920
 Pongelia 454
 Postuera 15
 Potamoxylon 450
 Prinos 244 to 254, 260
 Prisciana 705
 Proterpia 462
 Psidium 654
 Psistina 833
Psedera 511
 Psychotria 942-56
 Pukanthus 264, ap. 1
 Pyrgus 69 ap.
 Quarena 181
 Quinaria 511
 Quinasis 968
 Raclathris 75 ap.
 Rafinesquia 458
 Rephesis 313
 Resupinaria 718
 Retama 82
 Rhamnus 104 to 159
 Rhexia 605-8

Rhizaeris 532
 Riddelia 701
 Rinxostylis 508
 Roemeria 72 ap.
 Ronabea 252
Rosalesia 729
 Rubus 12-24 ap.
Ruellia 935

 Saelanthus 507
 Sarcomphala 124
 Sasanqua 895
 Sassafras 898
 Satureia 438-41
 Saurobroma 150
 Savastana 604
 Scaligera 384
 Scheperia 677
 Schizonotus 978
 Schobera 4 ap.
 Sclerocladus 162
 Scolodea 805
 Scolosperma 685
 Scorpianthes 623
 Scurrula 786, ap. 8
 Seborium 347
 Sebestena 176-80
 Selnolition 16 ap.
 Semarilla 933
 Semetor 387
 Semnos 27 ap.
 Semilta 349
 Semnos 27 ap.
 Senegalia 743
 Senkebergia 393
 Senna 768
 Sensitiva 740

Sererea 660
 Sericandra 746
 Sericola 558
 Sericotheca 980
 Sesbania 718
 Sethia 928
Sideroxylon 159-68
 Sieruela 691
 Silamnus 327
 Siliquaria 690
 Simira 948
 Skidanthora 323
Sonneratia 68
 Sotularia 595
 Southwellia 412
 Spartium 82-91
 Sphenista 535
 Spherosuke 303
 Spirea 971-84
 Spiroloba 739
 Spondogona 164
 Stanleya 703
 Stegitris 828
 Stemoxis 985
 Sterculia 401-18
 Strepsilobus 733
 Strepsimila 9 ap.
 Strobon 825
 Stuartia 39 ap.
 Subrisia 209
 Sucomoros 302
 Sukeon 307
 Symplocos 36 ap.
 Synexemia 552
 Synodon 569
 Synoptera 596
 Synstima 241-4

- Synzistachium 528
 Taguaria 787
 Tagera 810
 Tamala 865
 Tapogamea 945
 Tarenaya 687
 Telestria 965
 Terega 306
 Teremis 271
 Tetranthera 56 ap.
 Tetracera 52-55 ap.
 Tetrapilus 875
 Theaphyla 883
 Thecanisia 984
Theodoria 418
 Thevetia 536 ap. 34
 Thottea 682
 Thyrsosma 814
 Tiaridium 527
Tibuchina 604
 Tococa 602
 Tomex 62 ap.
 Topiaris 207
 Topobea 603
 Toquera 191
 Traxilisa 29 ap.
 Traxilum 204
 Tremotis 314
 Triclanthera 668
 Tridermia 930
 Trilepta 475
 Triplandra 314
 Triplobus (*Triphaca*)
 683
 Triplomeia 687
 Troximon 494
 Trozelia 275
 Ulticona 288
 Urtica 731
 Uruparia 950
 Valteta 267
 Varinga 309
 Varronia 200-7
 Verlangia 156-9
 Verzinum 89
 Wadea 293
 Warea 700
 Woodfordia 621
 Xantolis 168
 Xamacrista 799
 Xamedrion 974
 Xeracina 591
 Xeromphis 76
 Xeropetalon 932
 Xolanthes 830
 Xylophyla 545
 Yangapa 71
 Zamzela 534
 Zexmania 787
 Ziegiera 559
 Zigmaloza 754
 Ziziphus 149-54
 Zonablephis 922
 Zulatia 589

Correction—For *Pausia* 10 read *Cartrema*
 Raf. meaning perforate nut, having already
 another G. *Pausia* in flora telluriana 1139.

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